

EFFECT OF SCHOOL AND NON-SCHOOL FACTORS ON PERFORMANCE IN KCPE IN PUBLIC PRIMARY SCHOOLS: A CASE OF MATUNGULU ZONE, MACHAKOS COUNTY, KENYA


BY

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DEDICATION

DECLARATION

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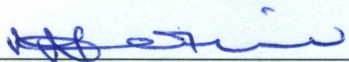
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ABBREVIATIONS AND ACRONYMS

- EFA** - Education for All
- FPE** - Free Primary Education
- UPE** - Universal Primary Education
- MDG** - Millennium Development Goals
- KCPE** - Kenya Certificate of Primary Education
- UNESCO** - United Nations Education and Scientific Cultural Organization
- PTR** - Pupil Teacher Ratio
- MOE** - Ministry of Education
- TSC** - Teachers Service Commission
- GER** - Gross Enrolment Ratio
- HIV** - Human Immune Deficiency Virus

ABSTRACT

The main purpose of this study was to assess the effect of school and non-school factors on performance in KCPE in public primary schools in Matungulu Zone, Machakos County. The specific objectives of the study were to: analyze teachers' professional and academic preparedness; establish the availability and utilization of teaching /learning resources; find out the teacher-pupil ratio; find out the effect of non-school factors on performance in KCPE and find out measures that can be taken to address the school and non-school factors that affect performance of KCPE in Matungulu Zone, Machakos County. The study used a case study design and it employed a questionnaire to collect data from 11 head teachers, 60 teachers and 376 pupils. The researcher organized raw data from the questionnaires into significant patterns so as to easily interpret and understand the essence of the data. The Statistical Package for Social Sciences (SPSS) was used to analyze data and the findings were presented through descriptive statistics by use of frequencies, tables, and pie charts. It was realized from the study that most teachers possessed the necessary professional qualifications and experience, most of the schools invested in class eight textbooks at the expense of other classes and that no school in the zone had a library. A substantial number of schools faced difficulties such as high pupil: teacher ratios. As a result of high pupil: teacher ratios, many teachers gave pupils follow-up assignments but they were not in a position to mark and correct in class due to high work loads. There was also high textbook-pupil ratio especially in religious studies. The study also found out that parental socio-economic background and lack of parental involvement in a child's educational life had an influence on a pupil's achievement. The study concluded that a substantial number of teachers faced difficulties when implementing the curriculum. Due to these difficulties, most of the teachers concentrated more on teaching class eight at the expense of the other classes and therefore, there has been no effective implementation of the curriculum in Matungulu Zone as was/is intended by the curriculum developers. Equally, the study recommends that government should employ more teachers, increase fund allocation to Free Primary Education, and sensitize parents on the importance of parental involvement in their children's academic affairs.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Since independence, the Kenyan government has placed education at the centre of national development. As early as 1964, the government established the Kenya Education Commission in 1964 to chart the course of development of the sector. The commission emphasized Kenya's need for universal primary education and this initiative resulted in massive enrolments in primary schools (Republic of Kenya, 1964).

The importance of education in the development process is generally accepted in the literature. Apart from its contribution to growth, education, like health, is a consumption good whose acquisition directly contributes to people's wellbeing. It is partly for this reason that the United Nations Development Programme (UNDP) uses education as one of the components of its Human Development Index. There is, therefore, no doubt that every country needs to provide more education to its citizens (UNDP, 2005).

According to Momanyi (1999), education has for long been recognized as a central element for development. Across nations, it is regarded as a major agent for economic, political and political development. Among developing nations, there are such heightened expectations of education that it is perceived as a fundamental tool that can generate or quicken efforts at raising living standards. Hopefully, with this in mind, when developing countries began their drive for social and economic development, education was perceived as a means not only for raising political and

social consciousness but also for increasing the number of skilled workers and raising the level of trained manpower. It is hoped that these benefits together with the visible gains for individuals from education have since independence stimulated unprecedented growth of enrolment coupled with increased expenditure in all tiers of education in Kenya.

Ayot and Patel (1987) emphasize that the fundamental goal of education in Kenya is to prepare and equip the youth to be happy and useful members of the society. The authors assert that the quality of education entails the total development of the school subjects through properly trained class teachers, using appropriate textbooks and following communication techniques that impart maximum knowledge and skills to the pupils. This automatically implies that resources for teaching and learning are necessary at all stages of education aimed at improving the presentation of information.

Free Primary Education (FPE) was introduced in January 2003, following the winning of elections and forming a government by the National Alliance Rainbow Coalition (NARC). Studies by (UNESCO, 2007) reveal that enrolments in public primary schools increased significantly from 5.9 million in 2002 to 6.9 million in 2003 - a 17 per cent increase; representing a Gross Enrolment Rate of 99 %. According to statistics from the Ministry of Education, the number of KCPE candidates increased from 587,961 in 2003 to 704,737 in 2007, an increase of 19.9 percent (Republic of Kenya, 2010). Thus, effort is, therefore, required to sustain the current enrolment and address the key issues of improved access, equity and quality

and generally, the internal efficiency of our education system requires policy attention.

Under FPE policy, the government provides the teaching and learning materials and pays teachers' salaries. This has made the education recurrent budget to rise from 35 % of the public sector in 2000 to 39 % in 2004. UNESCO (2005) points out that the percentage of the government budget allocated to education completes the picture of governments' commitment to education, reflecting the degree of priority they give to education relative to other national expenditure. While government expenditures on education in high-income countries in North America and Western Europe rarely reach 15%, more than half of the countries in Sub-Saharan Africa surpass this level. UNESCO (2005) highlights that education accounts for one-quarter or more of total government budget in Botswana, Guinea, Mexico, Morocco, Thailand, Vanuatu and Yemen. However, these large amounts are used to finance various inputs that go into the teaching/learning process.

Out of the total allocation to the Ministry of Education (MOE), 50% of the resources go to primary education. There is also the cost sharing policy which entails the cost of education being incurred by the other players in provision of primary education. This cost covers: physical infrastructure development and maintenance, payment of fees for tuition and examination, catering and accommodation in boarding schools, transport, energy, water and communication, students' personal expenses and remuneration of school non-teaching staff.

Despite the government's support, UNDP (2005) points out that primary education continues to experience a number of challenges such as overstretched facilities, overcrowding in schools especially those in urban slums, arid and semi-arid (ASAL) areas and pockets of poverty, high pupil-teacher ratios, high cost of special equipment for children with special needs, diminished support by communities, gender and regional disparities, increased numbers of orphans in and out of school as a result of HIV/AIDS, poor management and internal efficiency that negatively impact on access, equity and quality.

To a great extent, all countries face the challenge of improving the quality of education (UNESCO, 2007). Further, UNESCO asserts that there is no single strategy to enhance learning, but key elements include health and safety at school, enough learning time and resources, skilled and motivated teachers, and effective pedagogy. It is important to note that quality education and training contributes significantly to economic growth, better employment opportunities and contributes to expansion of income generating opportunities.

Uwezo (2010) reveals that literacy levels are low and have gender and geographical dimensions. Many children in primary schools including those in upper classes are unable to demonstrate basic reading and numeric skills. The low reading levels cut across all the classes to the extent that out of every 1,000 children completing class eight, 50 of them cannot read a class two story while one out of four (25 %) of children in class five cannot read a story of class two level. These low competencies negatively affect students' performance in KCPE.

Books and other educational materials are the basic tools for educational development and must, therefore, be available to the learners in adequate quality and quantities (Republic of Kenya, 1976). They must also be available at a time they are required and at a cost the learner can afford. The report recommended that educationally suitable and culturally relevant materials should be prepared as matter of priority for use in Kenyan schools.

Education for All (EFA) Monitoring Report (2008) indicates that teacher absenteeism, in-service training, strikes, armed conflict and use of schools as polling stations or to conduct examinations can significantly reduce the time students have available for learning. On the other hand, UNESCO (2007) points out that the time actually spent learning subject matter - either in school or as part of homework - affects performance, especially in languages, mathematics and science.

According to the Republic of Kenya (2010), the national mean score for KCPE declined marginally from 247.4% in 2003 to 245.4% in 2007, a decrease of 0.8 percentage points. In 2007, the provinces with the lowest performance were North Eastern and Eastern with a mean of 225.8% and 238.4% respectively. It is equally important to note that Eastern Province registered the second highest public primary school enrolment.

The teacher resource is a vital input into the education system as teachers are responsible for the delivery of the curriculum and hence critical in determining the quality of education (Republic of Kenya, 2010). In addition, the Sessional Paper Number 1 of 2005 also notes that the teacher resource is one of the most important

inputs in the education system and, therefore, efficient management and utilization of teachers is critical to the quality of learning outcomes on education, training and research. Teachers are, therefore, an important resource in the teaching/learning process and their training and utilization requires critical consideration.

The UNESCO (2007) points out that no EFA goal can be achieved without a sufficiently large and well trained teaching workforce. Accordingly, since independence, the Government of Kenya has committed itself to the provision of adequate, properly trained and motivated teachers. In this respect, the Kenya Education Commission Report of 1964 and subsequent reports and policy documents have all reiterated the importance of matching teacher supply from various training institutions with the demand in educational institutions. However, in 1997 there was a freeze in teacher recruitment by the government where TSC was only allowed to recruit teachers to replace the number existing through natural attrition and therefore, there has been a remarkable inconsistency in the number of teaching staff at primary schools each year. This factor has exerted pressure on the teacher resource and hence there is high teacher-pupil ratio, UNESCO (2007)

Table 1.1 below illustrates the distribution of primary teachers by qualification. The data on teachers refer to teachers who are engaged in teaching and excludes those on study leave, disciplinary cases and those performing non-teaching duties.

Table 1.1 Distribution of Primary Teachers by Qualification, 2003-2007

Year	2003	2004	2005	2006	2007
Total	178,622	178,184	171,033	162,993	173,153

Source: Ministry of Education

From the above table, it can be noted that the decline in teacher employment in these years was partly attributed to inadequate funding to the education sector. Quality education assures sustainable acquisition of knowledge, be it intellectual or practical, capable of developing the individual and contributing to national and global development (Republic of Kenya, 2004). Further, the government recognizes that the role of the teacher is not only in imparting knowledge but helping students learn how to learn as agents of life transformation. Hence, the Ministry of Education facilitates training of teachers and capacity building to ensure optimal utilization of teachers. This enhances teacher-pupil contact at the classroom level. On the other hand, the head teachers ensure efficiency in performance and proper utilization of teachers under them, effective management and implementation of curriculum and prudent use of resources available.

Adequate provision of school facilities in relation to the pupils' population is important because the quality of education that the children receive is affected by the availability or non-availability of physical facilities (Adesina, 1990). The UNESCO (2005) also points out that school learning resources provide a framework within which teachers can guide students in their learning. In a more fundamental sense, the effectiveness of learning depends on what pupils, as well as teachers, bring to task.

The UNESCO (2007) observes that textbooks have a positive impact on student learning. However, many classrooms in developing countries, especially in poor and rural areas possess one textbook, typically in the hands of the teacher. Students spend most of their time copying the content from the classroom blackboards to notebooks. Alubisa (2005) observes that textbook-pupil ratios have improved significantly in Kenya. The government has supplied a large number of books and tuition materials to the learners. Before, the textbook: pupil ratio was 1:15 but now stands at 1:3 for core subjects in lower primary and 1:2 for core subjects in lower primary.

According to Datta (1984), the academic achievement of a pupil is determined by his will to achieve and his ability to achieve. Both these may be influenced directly by the school they attend and other social factors. These factors include: social class, family, parental level of literacy, distance from school and peer group. Adell (2002) considers family background the most important and most weighty factor in determining the academic performance attained by the student. He believes that educational condition attributed to the family is beyond discussion because of the increasing awareness of the importance of the parents' role in the progress and educational development of their children.

On the other hand, Fan and Chen (2001) acknowledges that parental involvement in their children's learning positively affects performance at school. In addition, parental involvement leads to greater cognitive competence, school enjoyment and higher academic performance.

1.2 Statement of the Problem

Basic education is seen as a necessary condition for development. In addition, it is a right for every child. The introduction of Free Primary Education in 2003 resulted in increased enrollments without accompanying improvement in quality. The issue of quality is being addressed in a piecemeal way in order to alleviate problems in the teaching and learning process. However, most of the effort is a mere stop gap measure which addresses one problem while the other still exists. It is in this line that the researcher looked at the effect of school and non-school factors on KCPE performance in public primary schools in Matungulu Zone, Machakos County.

1.3 Purpose of the Study

The purpose of this study was to examine the effect of school and non-school factors on performance in KCPE in public primary schools in Matungulu Zone, Machakos County.

1.4 Objectives of the Study

The specific objectives of the study were to:

1. Analyze teachers' professional and academic preparedness in Matungulu Zone.
2. Establish the availability and utilization of teaching /learning resources in Matungulu Zone.
3. Find out the teacher-pupil ratio in Matungulu Zone.
4. Explore the effect of non-school factors on performance in KCPE examinations in Matungulu Zone.

5. Find out measures that can be taken to address the school and non-school factors that influence KCPE performance.

1.5 Research Questions

The study was guided by the following research questions:

1. How are teachers in Matungulu Zone professionally and academically qualified?
2. What kind of teaching/learning resources are available in the schools in Matungulu Zone?
3. What is the teacher-pupil ratio in Matungulu Zone?
4. To what extent do the non- school factors affect performance in Matungulu Zone?
5. How does parents' involvement in their children's education affect performance?

1.6 Assumptions of the Study

The following assumptions were made while carrying out the research:

1. That all the public primary schools under investigation benefit from Free Primary Education programme.
2. That the participants involved in the study gave truthful information.
3. That students participated freely without fear and/or bias.

1.7 Significance of the Study

The findings of this would be important to the Ministry of Education, Teachers Service Commission, policy makers and sponsors of primary school education in regard to performance in KCPE and provision of quality education. The study's recommendations would lead to possible intervention measures being put in place to address school and non-school factors that influence performance of KCPE in public primary schools. Further, the study might inform policy makers, development partners and civil society organizations regarding the formulation and designation of the most appropriate and relevant basic education policies and programmes in order to improve performance of KCPE in public primary schools

1.8 Scope and Delimitations of the Study

This study was delimited to Matungulu Zone out of the four zones in Matungulu Zone. The study was carried out only in public primary schools and private primary schools were not included in the study as their management is different from that in public schools. Further, the study confined itself to head teachers, teachers, and pupils.

Since the respondents were drawn from public primary schools in Matungulu Zone, the results of this study reflect the situation in such primary schools and the zone itself.

1.9 Theoretical Framework

This study was guided by the theory of production. Woodhall (1972) points out that any discussion on educational process in economics must commence with production process. This is a process of converting raw materials into products that satisfy a need

or products with utility. Production process in any firm is based on the production function, which describes the physical relations between the firm's input of resources and its output (products). Production function is also a theoretical construct which gives mathematical expression to the production relationship that defines the maximum output to be produced from different combinations of given sets of inputs. As Blaug (1969) points out that in the production process, a firm is the basic unit of economic production which utilizes a variety of inputs (a, b, c, d) to produce an output (X).

Since education service has grown steadily and now is viewed as an industry that uses a variety of inputs to produce outputs, schools can be seen as producers of education services and that leads naturally to the notion of the education production function. Pritchett and Filmer (1999) note that the appropriate modification needed in the education context is for schools to be treated as organizations that should try to maximize output. In mainstream economic analysis, education is seen as a production process in which inputs (e.g. students, teachers, and textbooks) are combined to yield desired outputs (e.g. student learning and performance) within the education sector under the prevailing educational technology (encompassing pedagogy, curriculum, and school organization).

As Johnson (1960) points out, this conceptualization of education sector permits application of production function concept to the study of schooling. Applied in the education set-up, the production function is referred to as Education Production Function (EPF). Capitalizing on the analogy of a profit-maximizing firm, EPF methodology conceives of schools as enterprises in which "raw materials" (learners) and other inputs (teachers, books, libraries, laboratories, etc.) are combined through a

given process or technology to produce certain outputs (learning and performance).

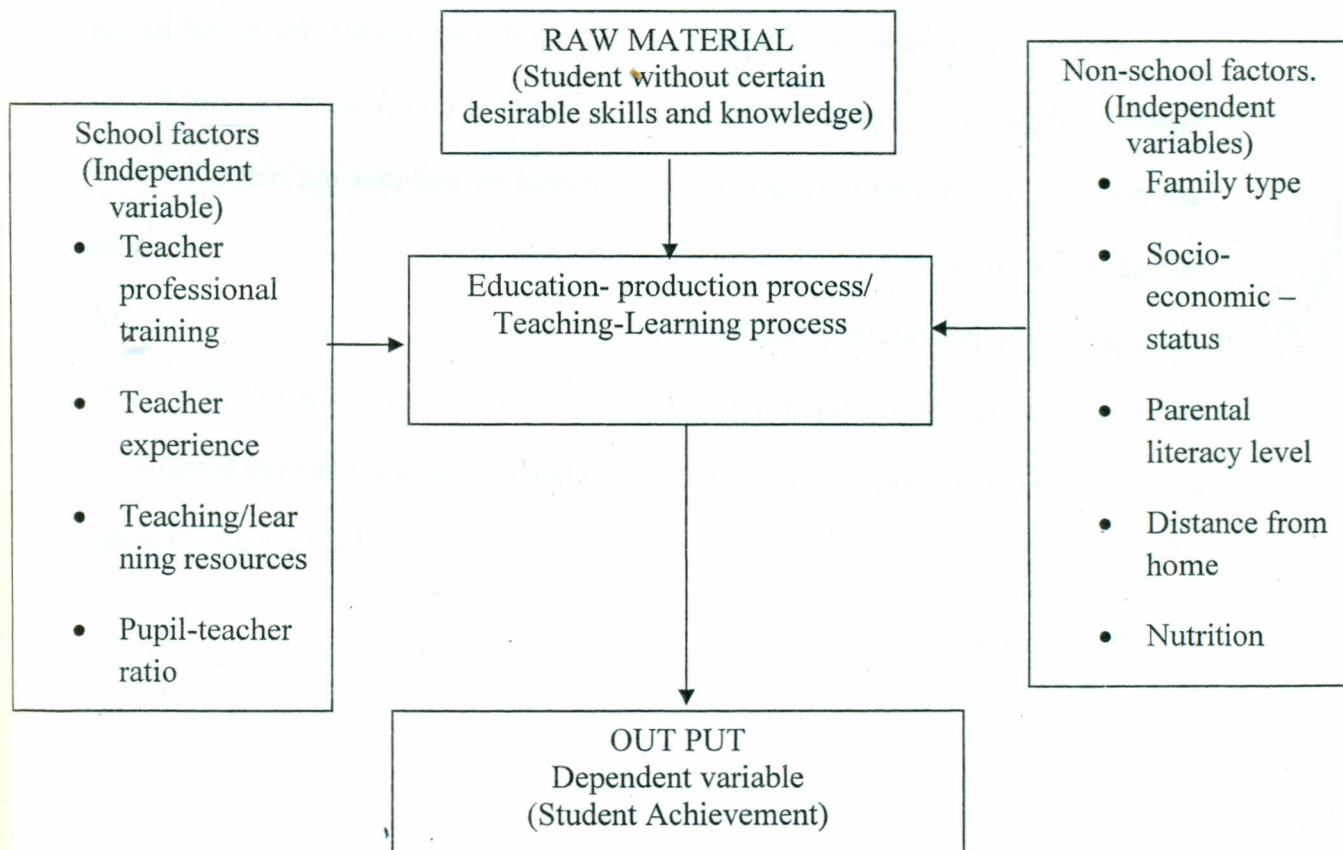
Schools, therefore, have a normal purpose to take human raw materials (learners) and convert them into something more valuable (employable adults).

Education production function perceives schools as enterprises in which students (raw materials) and other inputs (teachers, books etc) are combined through a given process or technology to produce certain outputs (learning and performance).

1.10 Conceptual Framework

The conceptual frame work of this study is based on the inter-relation between KCPE performance (dependent variable) and school and non-school factors (independent variables) that influence performance.

Figure 1.1 A conceptual framework of the effect of school and non-school factors on performance in KCPE in public primary schools



As indicated in Figure 1.1, education inputs that form the production process are divided into two main categories. These are school and non-school factors. Non-school factors commonly referred to as non-schooling variables are those inputs that the school does not have direct control over. Studies have shown that though the school cannot easily manipulate these variables, they actually affect the quantity and quality of output. Due to the complexity involved in trying to quantify some of the non-schooling factors, only a few of them (such as geographical location of the student home, family type, parental education, socio-economic status and nutrition) were included in the study. Exclusion of some non-school inputs from this study should not be interpreted to mean that such inputs are not significant.

The second category of educational inputs is school factors or the school inputs. The school has direct control over these factors. Although the study looked at some non-school inputs, the educational inputs that were of particular interest in this research were those that are supplied by schools. This is because these are the variables that are easily manipulated in the interest of internal efficiency. Some of the school factors that were considered in this study include: teachers' professional skills, teachers' experience, teaching and learning resources and pupil-teacher ratio. The study investigated the impact of school and non-school factors on performance in KCPE in public primary schools.

1.11 Operational Definitions of Key Terms

Gross Enrolment Ratio: This refers to the total enrolment in a specific level of education, regardless of age, as a percentage of eligible official school-age population to the same level of education in a given school year.

Teaching/Learning materials- These are materials used by both the teachers and the learners in the teaching and learning process. They include people, reading materials, facilities, equipment and other sources of instructional support.

Pupil-Teacher Ratio-This is the average number of pupils per teacher at a specific level of education in a given school year.

Textbook-Pupil Ratio- This is the average number of pupils per textbook at a specific level of education in a given school year.

Educational Output –This refers to student achievement/performance measured in test scores or examination marks.

School Factors - Inputs that a school has direct control over e.g. school structures, teachers, books, and laboratories.

Non-School Factors – These are inputs that a school have no direct control over e.g. social-economic composition of students, average income of parents, parental level of education, poverty level, environment, number of siblings, etc.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter examines related literature to the study. Related literature is reviewed under the sub-topics: Teachers' Professional and Academic Qualifications, Pupil-Teacher Ratio, Material and Physical Resources and Non-School Factors Affecting Performance.

2.2 School Factors

2.2.1 Teachers' Professional and Academic Qualifications

Gerlach and Ely (1971) observe that one of the most common conceptions of the role of the teacher is that of a giver of information because traditionally, most instruction in the elementary, secondary and higher education involved the presentation of information. According to Psacharopoul and Woodhall (1985), the belief that investment in the teacher training would improve the quality of schooling led to the World Bank to emphasize teacher training facilities in the lending for the education projects during the 1960s and 1970s.

A study conducted by World Bank on the relationship between quality and training of teachers and students' achievements concluded that trained teachers do make a difference. In addition, Karim (1994) believes that the quality of teachers is one of the factors that affect the levels of achievement in basic learning. For her, it is important that teachers of high quality are produced. She argues that the teacher's performance heavily depends on the professional training, attitudes, academic

background, and education infrastructure of the institution, the type of leadership and the tradition of the school.

A study carried out on student achievement in science by the International Project for the Evaluation of Educational Achievement (IEA) in nineteen countries showed that if the level of teacher training in Chile and India was increased, the average test score of pupils in secondary schools would improve. It concluded that investments in teacher training programme would help improve the quality of output in terms of student cognitive scores.

The most important variable in a school is the quality is the teacher (Coleman et al., 1966 and Murname, 1975). According to studies by Coleman et al. (1966) and Murname (1975), indicators of teacher quality statistically explain more of the variations in achievement among students than the other school quality variables. However, specific measures of teacher quality such as experience, formal education and training qualifications were not found to be consistently related to student achievement. Nevertheless, teacher certification and academic qualifications were found to be significant predictors of output.

2.2.2 Material and Physical Resources

a) Text books

Heyneman, Farrel and Manuel (1978) observe that whereas evidence on the effects of class size and teacher variables on student achievement is often conflicting, a review of studies in ten developing countries reported a consistent relationship between pupil

achievement and the availability of books. According to Heneveld and Craig (1995), textbooks are often not available in Africa. In addition, these authors argue that even when they are available, they are not always used because they do not get to the classroom for a variety of reasons or teachers are not trained on how to use new textbooks and the result is evident in the poor academic performance of students.

Pritchett and Filmer (1999) carried out a study on allocating resources to the right area. They based their study on Northern Brazil and India. The study presents compelling evidence that there could be significant efficiency and productivity gains by reallocating the share of expenditures to areas of higher marginal productivity such as learning materials (i.e. textbooks and other types of instructional materials).

White (2004) carried out a study in Ghana on the relationship between textbooks and achievement. The study concluded that improved textbook provision was a significant factor. Before the improved provision of textbooks, primary schools in Ghana had deteriorated to the point where primary graduates scored no better on simple reading tests than those who had not been to school.

From studies done in numerous African countries by UNICEF (2008), it was found out that between 25 % - 40 % of teachers said that they possessed no book or guide for the subject they taught. Although international agencies support in textbooks development and distribution in many developing nations, investment tends to be in one-off, publish over the long term. All in all, resources are more important determinants of pupil

achievement in resource-poor environments than in richer ones. A study by Kunje and Meke (2009) concluded that there was a difference between classes with low and high textbook-pupil ratios. Those with low ratios tended to perform better. However, classrooms where there were no textbooks performed much poorer than classes with textbooks.

b) Physical Resources

Comprehensive case studies of Brazil by Harbison and Hanushek (1992) and of Ghana by White (2004) offer specific evidence that a minimum basic quality of school facilities matters significantly for achievement outcomes. For example, in Ghana, schools would often lose days of instruction due to leaking roofs and attention to maintenance, but repairs dramatically improved the situation.

The more qualitative literature review by Heneveld and Craig (1995) on school quality in Africa also found that a basic level of school facilities contributes to school quality in terms of student learning. A basic standard of school facilities would include enough classrooms to accommodate about 40 students per classroom, sufficient desks in preference to using floor mats, chalk boards, and maybe a storage cupboard for books and materials.

In addition to classrooms, adequate sanitation in terms of water and latrines is an important aspect of school facilities for increasing the willingness of parents to enroll their girls (Heneveld and Craig, 1995). In most cases, parents prefer separate toilets for

boys and girls. Also, the average distance girls' travel to school is a factor, and this becomes more important as the girls enter the upper grades of primary. As a result, reducing the average travel distance implies more schools or classrooms need to be built, and this can lead to significant reductions in drop-out rates, especially for girls.

A study undertaken by Shami and Hussain (2005) revealed that the availability of physical facilities in a school had a significance impact on pupils' performance. In addition, Leeper et al. (1968) claims that the child learns through concrete rather than abstract experiences and physical facilities help to enhance the learning of the pupils. Olubor (1998) also points out that lack of adequate facilities such as textbooks, ill-equipped classrooms and libraries are among the probable causes of pupils' poor performance.

Carroll (1989) points out that the following four elements have an important influence on learning outcomes if combined with learning resources:

(i) Aptitude

This determines the amount of time a pupil needs to learn a given task under optimal conditions of instructions and student motivation.

(ii) Opportunity to learn

This is measured as the amount of time available for learning.

(iii) Perseverance

This is the amount time a student is willing to spend on learning.

(iv) Quality of Instruction

This is the ability to understand instruction, which includes language comprehension and the ability to understand the nature of the task and how to go about it.

The Kenyan government has ensured equitable distribution of learning/teaching materials in public primary schools to support curriculum implementation. The government has also instituted capacity building for primary head teachers, school management committees and field officers to ensure efficient delivery of quality educational services (Republic of Kenya, 2004). It is from these arguments that the study examined the effect of teaching/learning resources on KCPE performance in public primary schools in Matungulu Zone.

2.2.3 Pupil-Teacher Ratio

A shortage of teachers results in high teacher-pupil ratios which affects academic achievement (UNESCO, 2001). Despite this fact, a study by Uwezo (2010) found out that there was an acute teacher shortage in public primary schools in most parts of the country. Data collected from 2,030 primary schools, most of which were rural schools, indicated that every primary school in Kenya had teacher shortage of approximately 4 teachers. This implies that at any one time, there were four classes without a teacher in each school. To mitigate the problem, many schools had had to employ community teachers and to engage volunteers. The problem with this option was that these teachers were not as qualified and lacked the motivation that comes with permanent employment and competitive remuneration.

UNESCO (2001) observes that there is an increasing recognition that teachers play a central role in efforts aimed at improving the functioning of education systems and raising learning outcomes. But do government policies consistently reflect this awareness? How do they help teachers promote excellence and thus influence levels of learning achievement? Teachers are expected to respond to an increasing range of societal demands, but how are they enabled to do so?

Many educators relate the class size argument to that of “time-on-task” issues, claiming smaller class size minimizes disruption and allows teachers to give more individual attention to students, thereby increasing the effective time of instruction. But some research studies of actual classroom teaching practices show that teachers often do not change their method of teaching in response to a smaller class size. Instead, they still lecture and go about assigning homework in much the same way. This may explain why the gains from class size reduction is more apparent in the early grades, where teachers tend to use small groups, hands-on projects, and personal relationships with their students (Boissiere, 2004).

Table 2.1 below shows provincial Pupil-Teacher Ratios (PTR) (2003-2007). North Eastern recorded the highest PTR at 63:1 while Eastern Province recorded the lowest PTR at 38:1. The national PTR rose from 38:1 in 2003 to 43:1 in 2007. This study sought to establish the exact teacher-pupil ratio in Matungulu Zone, Machakos County.

Table 2.1 Provincial Pupil-Teacher Ratios (2003-2007)

Province	Year				
	2003	2004	2005	2006	2007
Coast	40:1	52:1	50:1	51:1	53:1
Central	34:1	38:1	37:1	38:1	39:1
Eastern	34:1	38:1	37:1	39:1	39:1
Nairobi	43:1	53:1	46:1	47:1	47:1
Rift Valley	36:1	40:1	40:1	42:1	43:1
Western	48:1	50:1	49:1	51:1	53:1
Nyanza	42:1	43:1	42:1	45:1	45:1
North	58:1	56:1	55:1	55:1	63:1
Eastern					
TOTAL	38:1	40:1	42:1	43:1	43:1

Source: TSC

PTRs of more than 40:1 tend to hamper learning (UNESCO, 2007). Further, UNESCO observes that 24 out of 176 countries with data have PTRs above that bench mark, and 20 of them are in sub-Saharan Africa, with the highest ratio (83:1) in Congo. Worldwide PTRs remained stable at 25:1 between 1999-2005 but the ratios increased in sub-Saharan Africa (from 41:1 to 45:1).

Boissiere (2004) observed that the issue of class size or pupil-teacher ratios (PTRs) is related to the quantitative aspect of how many teachers to hire. For a given student

population size, smaller class sizes mean more teachers need to be hired. However, it should be noted that class size and PTRs are not necessarily the same measures, except perhaps in special circumstances. Reducing class size is the most frequent suggestion made for improving the quality of education, but it is a costly strategy.

World Bank (2001) concluded that the three key issues for teacher effectiveness are: knowledge of subject matter, pedagogical skills, and teacher motivation, of which salary is only one part. Harbison and Hanushek (1992) found that tests measuring teachers' knowledge of mathematics are significant determinants of the achievement of students. Education theory and philosophy suggest that teachers who are skilled in active-child-centered methods of teaching produce better learning results, especially when it comes to the capacity of students to apply knowledge as opposed to just memorizing facts and names of concepts.

"Joyful learning" methods are an example of the child-centered approach. However, there are not many rigorous statistical studies in developing countries to confirm that active learning approaches have had large positive effects, although most educators seem to subscribe to some variant of this approach. Finally, apart from salary, low teacher morale is due to poor working conditions and lack of administrative and community support (Heneveld and Craig, 1995), much of which could be rectified without significant financial expenditures.

Whereas most studies have shown that there is a positive relationship between teacher quality and student achievement, studies reviewed above have not shown the impact of teacher quality variables on academic performance. They have not attempted to show the strength of this relationship. The current study, therefore, was designed not only to establish whether there is a relationship but also the strength of the relationship - which would show whether this input is a key determinant of performance or not.

2.2.4 Learner Characteristics

Datta (1984) asserts that the academic achievement of a pupil is determined by his will and ability to achieve. These two factors may be influenced directly by the school he attends and other non-school factors which have a bearing on the student's will and ability to perform well in the academic field.

Studies by UNESCO (2003) show that how people learn – and how quickly – is strongly influenced by their capacities and experience. Important determining characteristics can include socio-economic background, health, and place of residence, cultural and religious background and the amount and nature of prior learning. It is therefore important that potential inequalities among students, deriving from gender, disability, race and ethnicity, HIV/AIDS status and situations of emergency be recognized. These differences in learner characteristics often require special responses if quality is to be improved.

Kweku (1979), in a study carried out in Ghana on the determinants of outputs, says that differences in the quality of school, size of classes, scholastic ability and gender of classmates, and the verbal ability of teachers have significant effects on the achievement

among economics and chemistry students. The study found out that gender of the classmates of economics students was the only schooling variable that was found to be significantly related to occupational aspiration.

The school context tends to affect the strength of educational outcomes (Portes and MacLeod, 1996). A research carried out in Britain by Sparkes (1999) shows that schools have an independent effect on student attainment. While there is less data available on this issue in Australia, several studies using the longitudinal surveys of Australian Youth have found that students attending private schools are significantly more likely to stay on at school than those attending state schools. The study also found out that students from private schools are more likely to achieve higher end of school scores, and that teachers at disadvantaged schools, for instance, often hold low expectations of their students, which compound the low expectations students and their parents may also hold.

Related to poor educational performance is the level of truancy or unexplained absence among students (Sparkes, 1999). Sparkes argues that truancy can be modeled both as an educational outcome and as a causal factor in explaining educational performance. Truancy tends to be higher among students from low socio-economic status (SES) backgrounds. Having high levels of unexplained absence at school has also been found to be associated with poorer early adult outcomes in the labor market for instance higher probability of being unemployed and poorer adult health relative to non-truants.

2.3 Non-school Factors

This section deals with: socio-economic status, parental involvement in the child's academic affairs, pupils' nutritional concern; and home environment and distance from school.

2.3.1 Socio-economic Status

Much of the work concerning out-of-school influences on students' prospects for academic success stems from James Coleman's (1966) study of racial and ethnic segregation, student and family characteristics, and student achievement. In *Equality of Educational Opportunity* (1966), prepared for the United States Department of Education, Coleman found that family factors such as household composition, socio-economic status, and parents' level of education were stronger predictors of students' educational attainment than were direct school-related factors.

According to UNESCO (2007), recent studies in Central and Eastern Europe found that most achievement gaps between regions and between different types of schools or programmes were associated with student socio-economic status. Studies by Desai (1989) done in Mumbai, reveal that circumstance of parents' life can determine the education of their children. Dasai points out that parents whose present life circumstances require tremendous energy and effort can invest little in the future of their children. The present predominates over the future and expectations of the future rewards. Education may be a value but it is a lower order of priorities because of life's competing demands.

During the 1990s, as the United States education system was focused intensely on raising academic achievement across the board under the banner "All Students Can Learn", many educators, researchers, and policymakers began to adopt the 'no excuses' philosophy. Regardless of a child's life circumstances, they asserted, an effective education environment can overcome other challenges and enable all children to achieve at high levels. All (or nearly all) students can learn. However, the circumstances of a child's life, the social indicators that paint a cumulative picture of a child's total environment, are important signposts pinpointing conditions that either make learning possible or present challenges that must be overcome to pave the way for learning, (UNESCO, 2007).

Williams et al. (1993) reveal that children from low socio-economic families are likely to exhibit lower levels of literacy, numeracy and comprehension, and high levels of problematic school behavior such as truancy. These children are also less likely to study specialized Maths and Science subjects and are more likely to have difficulties with their studies and display negative attitudes to school. A study carried out by Coleman et al. (1966) concluded that variations in school resources did not explain much of the variations in student achievement. The importance of schools and teachers for the achievement of students seemed much less critical than that of the SES as indicated by a number of family background characteristics, such as parental education, profession, and income.

Heyneman (1979) analyzed a large sample survey of Ugandan students and found that socio-economic status was not as important in Uganda as it was in the United States. Hanushek (1986) carried out a study on production function studies in the United States.

The study showed average spending to have risen over time while test scores remained flat, a problem he attributed to weak effect of school inputs. In a subsequent study carried out in developing countries, Hanushek (1995) reached essentially the same conclusion. The study found the traditional approach to improving student outcomes -increasing inputs - an ineffective policy option, given that no systematic relationship was found between inputs in the aggregate and test scores. When reviewing the studies of particular inputs, like teacher quality, he found equivocal results.

In reference to Alexander and Simmons (1975), socio-economic variables account for proportionately less of the explained variance in cognitive achievement in developing countries than in developed countries. The researcher examined the impact of most exogenous inputs and went further to establish whether there were gender variations in the effects of these inputs on the outputs.

Baudelot et al. (2004) observe that a French Sociologist Paul Lapie studied the life histories of 722 men who had been enrolled between 1872 and 1893 at primary school in Ay Eastern France. The study was aimed at establishing the relative importance of schools and families in determining cognitive achievement and subsequent success in life. The study concluded, on the basis of this work that schooling sometimes succeeds in breaking the strings of the net by which economic circumstances control the man's destiny. In addition, schools' impact is not great, but it is not nothing.

According to Coleman et al. (1966), research on whether education in general, and school in particular, makes a difference to people's lives was given a strong stimulus in the mid-1960s by the publication of a report that concludes that, in USA, family background and the composition of peer groups in school had a much larger impact on educational outcomes and on subsequent economic success than did variations in the characteristics of the schools themselves. The profound radical implication was that schools simply helped reproduce inequalities in the society that already existed.

Most of these studies focused only on European nations. There is need to carry out such a study in Africa which has different geographical, economic, social, cultural, and technological settings from those of the European countries. For that reason, the study sought to find out whether family environment and parental literacy level had influence on students' academic performance in Matungulu Zone, Machakos County.

Although families may be broadly similar in structure and function to each other, differences between individual families cannot all the same be ruled out (Kombo, 2006). Some of these differences, for example, the size of the family and the nature of relations within it can affect the academic performance of the child. Family size is said to affect the learning process of the child at home because it is assumed that the larger the family, the less attention the mother can give to her individual children. Relations within the family may also influence the child's mental health and personality traits which will be closely related to their academic performance.

2.3.2 Parental Involvement in the Child's Academic Affairs

Research shows that parental involvement in their child's learning positively affects the child's performance at school leading to a higher academic achievement. (Fan and Chen, 2001). Studies by Flouri and Buchana, 2004, revealed that parental involvement in their child's literacy practices is a more powerful force than any other family background variable.

A study that was carried out by Coleman's (1988) on the relationship between family background and test results (in particular for reading tasks), revealed that the attitude of parents to learning, and the connection between the parents and the school, has an impact on student performance. However, the students benefit educationally from the accumulated cultural and financial capital of their parents only if the parents invest in the human capital of their offspring. The study went further to investigate the relationship between student performance and parental occupation. The relationship turned out to be weaker in some Scandinavian countries (especially in Finland and Norway) and in Ireland. The strongest correlation between the reading test results and the parental occupation appears in Portugal and Germany, followed by the Czech Republic and Hungary. Moreover, when the father and mother's education were looked at, the coefficients were highest for Hungary, the Czech Republic and Germany.

Rowe (1991) affirms that involvement with reading activities at home has a significant positive influence not only on reading achievement, language comprehension and expressive language skills but also on pupil's interest in reading, attitude towards

reading and attentiveness in class. In addition, Wade and Moore, (2000) found out that parents who introduce their children to books give them a head start in school and also an advantage over their peers throughout primary school

Rich (2000) recognizes other factors that are likely to adversely affect educational outcomes of children. These factors include: reduced contact between the child and non-custodial parent, the custodial parent having less time to spend with children in terms of supervision of school-work and maintaining appropriate levels of discipline, lack of an appropriate role model, increased responsibilities on children such as child-care roles, domestic duties which impede the time available for school work; and the nature of parent-child relationships in sole parent families may cause emotional and behavioral problems for the child.

2.3.3 Pupils' Nutritional Concern

According to Georgia (2006), students who paid attention to their daily nutrient needs performed academically better in school, and inadequate nutrition negatively influenced intelligence and academic performance. Georgia further says that Low levels of protein and iron indicated a correlation with low achievement scores and those with poor nutrition scored lower on tests of vocabulary, reading comprehension, arithmetic, and general knowledge.

In addition to the above findings, it was also discovered that those who did not have breakfast scored lower in tests of speed and accuracy of response on problem-solving.

On the other hand, those with iron deficiency (anemia) were found to have shorter attention spans, irritability, fatigue, and difficulty with concentration, which led to poor vocabulary, reading, and other test scores but protein, in particular tryptophan, improved alertness.

Those slightly malnourished showed that their intelligence and performance were affected and improved nutrition corrected these impairments. Temporary hunger adversely affected attention, interest, and learning.

2.3.4 Home Environment and Distance from School

The home environment shapes a child's initial views of learning (Metropolitan Life Insurance Company, 1998). Parents' beliefs, expectations, and attitudes about education and their children's achievement have a profound early impact on students' conceptions of the place of education in their lives. What parents think about the importance (or unimportance) of doing well in school is often mirrored in student results. A study by the Metropolitan Life Insurance Company (1998) found that nearly all students (97%) who earned mostly A's and B's on their report cards reported that their parents encouraged them to do well in school. Among students who earned mostly C's, nearly half (49%) said they received little parental encouragement.

Robert's (2005) study found out that a higher number of siblings negatively correlated with reading performance in all the sampled countries. The relationship was strongest in Portugal, followed by the Czech Republic, Italy, and Hungary. The number of children in the family had least impact on reading ability in Denmark, Austria and Finland. A working mother increased, rather than decreased, education performance in most of the

countries. According to the current study, it is a disadvantage to live in a single-parent family only in some of the countries.

Studies by Cheers (1990) observed that students from non-metropolitan areas are more likely to have lower educational outcomes in terms of academic performance and retention rates than students from metropolitan areas. Despite an adequate number of educational facilities in rural and remote Australia, school children from these areas remain disadvantaged by other factors. Issues affecting access to education in such regional areas include: costs, the availability of transport and levels of family income support. In addition, inequity exists with regard to the quality of the education that rural students receive and furthermore, students may also have limited recreational and educational facilities within their school.

In Australia, research by Sparkes (1999) showed that lower educational attainment is also associated with children living in public housing compared to those in private housing. This could be due to the effects of over-crowding, poor access to resources and a lack of social networks, and in this sense, housing type may also be a measure of neighborhood influence. A recent Australian study based on 171 Year 12 students from 10 state schools, found that the neighborhood effects are an important influence on students. Measures of the neighborhood include: the level of neighborhood income, the unemployment rate, an index of educational attainment and the percentage employed in professional fields. This study was unable to identify, however, the precise transmission mechanisms for such neighborhood effects. Whether, for instance, they were due to spillover effects such as

peer group influence, the presence or lack of job networks and role models or whether the neighborhood variables were acting as proxies for school quality or housing type.

2.4 Summary

From the literature reviewed in this section, it is clear that schools do not exist in a vacuum. A host of factors contribute to students' prospects for academic success. The most common school factors may include: teachers' professional skills and experience, availability and utilization of teaching and learning resources and pupil-teacher ratio. On the other hand, non-school factors may include: socio-economic status, type of family, parental involvement in their child's academic affairs, home environment and distance from home, and nutrition. Most of these studies were carried out before the introduction of FPE. While the government invests heavily in offering free schooling at the primary level; quality of education has been on the decline in Matungulu Zone. Therefore, the study intends to examine the effect of school and non-school factors on performance in KCPE in public primary schools in Matungulu zone, Machakos County.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter deals with: research design, location of the study, target population, sampling procedure and sample size, research instruments, pilot study, validity and reliability of research instruments, data collection procedures, data analysis method and logistical and ethical considerations.

3.2 Research Design

This study mainly used a qualitative approach in the form of a case study design. However, basic quantitative techniques such as frequencies and percentages were used to analyze some of the data that were obtained. Although the case study method has been dismissed by critics who question the rigor of the approach, numerous studies over the past 20 years have demonstrated that the case study method can be used successfully to probe beneath the surface of a situation and to provide a rich context for understanding the phenomena under study (UNIST-CNRS, 2006). Mason (1998) also points out that the qualitative research aims at producing rounded understandings on the basis of rich, contextual and detailed data.

Rather than using large samples and following a rigid protocol to examine a number of variables, case study methods involve an in-depth examination of a single instance, event or a case (Yin, 1993). Yin adds that case study methods provide a systematic way of

looking at events or phenomena with its real life context, collecting data, analyzing information, and reporting the results. As a result, the researcher may gain a sharpened understanding of why the incident happened as it did, and what might become important to look at more extensively in future research.

Tellis (1997) points out that case study goes beyond the quantitative statistical results and explains the conditions through the perspective of the 'actors'. Thus case study evaluations can cover both processes and outcomes, because they can include both qualitative and quantitative data. Hence, case studies have been increasingly used in education (Boisjoly and DeMichiell, 1994) due to their characteristic of striving towards a holistic understanding of cultural systems of action.

Case studies entail intensive investigations of a single unit that would take the form of one person, group, project institution or agency (Mckenzie, Powell, and Usher, 1997 and Kane, 1995). In general, case studies have an advantage of being illustrative, illuminating, insightful and strong on reality (Wellington, 2000).

Since the case study approach to research inquiry is a qualitative method, it has certain characteristics that are of great importance to this study. Sommer and Sommer (1991) say that a case study provides the opportunity to the researcher to apply a multi-method approach to a unique event or setting. According to Kane (1995), this design, like any other case study, entails an in-depth exploration of a situation, a process or an experience so as to provide context and situation specific data.

3.3 Study Locale

The study was conducted in Matungulu Zone, Machakos County. The selection of Matungulu Zone was prompted by the fact that the zone houses a resource centre for teachers and it was also the largest zone compared to the neighbouring zones. Matungulu Zone is bordered by Tala Zone to the East, Kiboko Zone to the South and Kianzambe Zone to the West. Singleton (1993) has observed that the ideal setting for any study is one which is directly related to the researcher's interest.

Further, Singleton says that the ideal setting for any study should be easily accessible to the researcher and that which allows immediate rapport with the participants. Having worked in Matungulu Zone for a long time, the researcher had a professional interest to do the research in the zone. Also, the researcher had great interest in this zone because all the schools were conveniently accessible to her and this enhanced the process of data collection for the study.

3.4 Target Population

Orodho (2008) defines a target population as the set of elements that the researcher focuses upon and to which the results obtained by testing the sample should be generalized. The target population for this study comprised: 19 public schools, 19 head teachers, 185 teachers; and 1,454 class eight and seven pupils, making a total target population of 1,658. Public primary schools were chosen for this study because they enjoy the Free Primary Education funds, and also because their management was/is different from that of private schools.

3.5 Sampling Procedure and Sample Size

The sampling done in qualitative research is usually purposive sampling (Patton, 1990; Mason, 1998) rather than random sampling or some other method of attaining statistical representativeness. In purposive sampling, sampling is done with a purpose in mind (Trochim, 2006). In fact, the researcher selects units which can enable him or her to make meaningful comparisons in relation to his or her research questions, his or her theory and the type of explanation he or she wishes to develop.

According to Guba (1981), the goal of purposive sampling is two fold: to make sure one has adequately understood the variation in the phenomena of interest in the setting, and to test developing ideas about that setting phenomena that are crucial to the validity of those ideas. Matungulu zone was purposively selected to maximize what could be learnt in the period of the time that was available for the study. Tellis (1997) asserts that case studies tend to be selective, focusing on one or two issues that are fundamental to understand the system being examined.

Patton (1990) says that sample size depends on what one wants to know, the purpose of the inquiry, what is at stake, what will be useful, what will have credibility and what can be done with available resources. Mason (1998) supports Patton's argument by saying that the size of the sample should be dictated by the social process under scrutiny. She further points out that the principle that the sample size should help the researcher understand the process than represent (statistically) a population is a good one. All the head teachers of the sample schools took part in the study. Six teachers (three from lower

primary and three from upper primary were also included in the sample. Stratified random sampling was employed to select thirty- four pupils per school (seventeen from standard seven and eight). This was done with the help of the teachers. Due to the nature of the study, the sample size for the study consisted of 11 head teachers, 60 teachers and 376 pupils. Therefore, the total respondents for the study were 447.

3.6 Research Instrument

In order to address the research objectives and the research questions, data were collected by use of the questionnaire. This study used the questionnaire because it has advantages over some other types of instruments in that it is cheap, does not require as much effort from the questioner as verbal or telephone surveys, and often has standardized answers that make it simple to collate and compile data (Begi, 2009). Further, a questionnaire is an inexpensive way to gather data from a potentially large number of respondents. Often it is the only feasible way to reach a number of reviewers large enough to allow statistical analysis of the results (Mugenda and Mugenda, 2003).

3.6.1 Questionnaire for Head teachers

The head teachers' questionnaire was divided into three sections. Section A comprised items that sought general information on personal and school background. Section B dealt with items on physical resources that were available in the schools and Section C dealt with the school academic performance.

3.6.2 Questionnaire for Teachers

The teachers' questionnaire dealt with general background of the teachers, items on their teaching and available learning resources to them, challenges facing the teachers and causes of good or poor performance in their schools.

3.6.3 Questionnaire for Students

The students' questionnaire comprised items that sought information about the student's educational background as well as their family's economic and educational backgrounds. The questionnaires contained structured open-ended and unstructured close-ended questions.

3.7 Pilot Study

The head teachers', teachers' and students' questionnaires were pre-tested in one selected school in Matungulu Zone. The purpose of piloting these instruments was to test the appropriateness of the items in terms of language and their construction as well as to check on the time required to fill each instrument. The items were accordingly improved to enhance their reliability and validity, and also their quality and efficiency. The school and the subjects who participated in the pilot study were not used in the main study.

Ary et al. (1972:87) observe that the pre-testing of the study instruments can bring out the unanticipated problems that may be solved at this stage, thereby saving time and effort. Therefore the procedure ensured that the study instruments were improved before they were finally administered in the study.

3.7.1 Validity

Validity is the degree to which a test measures what it is supposed to measure (Kombo, 2006). The research instruments should be able to depict what they are supposed to measure. For the purpose of this study, the researcher sought expert judgment. The supervisors helped the researcher in ascertaining the validity of the instruments. They were also used in determining the relevance of the content and language used in the research instruments. Essentially, the supervisors examined the instruments and provided feedback to researcher for necessary adjustments before the actual study in the field.

3.7.2 Reliability

Reliability, according to Orodho (2005), refers to the degree to which a particular measuring procedure gives similar results over a number of repeated trials. Piloting is one way of checking reliability of instruments. Items that were left blank or unanswered in ways that the researcher did not predict were modified and clear instructions given to respondents so as to avoid misinterpretation.

Reliability of the instrument was also determined by establishing whether there were ambiguities in any item, and whether the instruments elicited the type of data anticipated, and also if the type of data desired were meaningfully analyzed in relation to the research questions. Test retest method was used. The questionnaires were given to pilot respondents to fill, and then after one week, the same questionnaires were again administered to the same respondents. The instrument and the data are said to be reliable if there is a high co-efficient of reliability from the test retest technique (Mugenda and Mugenda, 2003).

Mugenda, 2003). The researcher accepted validity of items at a correlation co-efficient of 0.7 which is recommended.

3.8 Data Collection Procedures

The researcher acquired a research permit from the Permanent Secretary, Ministry of Education before proceeding to the study sites. Once the permit was secured, the researcher made visits to the District Education Officer in Matungulu District before going to the concerned public primary schools to seek permission for the study from the head teachers. Eventually, the researcher designed a schedule representing actual dates and time framework for the entire study period. To ensure efficiency in responding to the questionnaire, the researcher personally administered the instruments of the research to the head teachers, teachers and pupils.

3.9 Data Analysis Method

On completion of data collection and before embarking on compiling and coding data, the researcher checked for completeness of the questionnaires. The data were then arranged and grouped according to particular research objectives. Data were analyzed by use of the Statistical Package and social Sciences (SPSS). This package is known for its ability to handle large amounts of data and also it is quite efficient.

3.10 Logistical and Ethical Considerations

Before engaging in actual fieldwork, the researcher applied for a research permit from the Ministry of Education. Once the permit was granted, the researcher sought consent from

the District Education Officer in Matungulu District to enable her to access the public primary schools within the zone.

During the actual data collection, respondents were requested to voluntarily participate in the study. This means that no respondent was compelled to participate in the study. For the sake of confidentiality, the respondents were not required to write their names on the questionnaire. Further, they were assured that the information that they were to give was to be strictly confidential and that it was only meant for research purposes. No reference would be made to individuals and/or schools.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

In this chapter data were interpreted, analyzed and discussed. The researcher used the Statistical Programme for Social Scientists (SPSS) to organize the data collected from the questionnaires. Tabulation of responses and calculations of frequencies and percentages was done.

The objectives of this study were: to find out teachers' professional and academic preparedness, to establish the availability and utilization of teaching /learning resources, to establish the teacher pupil- ratio, to find out the effect of non-school factors on performance and to find out measures that can be taken to address the school and non-school factors that affect performance in Matungulu Zone.

4.2 Results and Discussions

Results are presented as per the objectives of the study.

4.3 Teachers Professional and Academic Qualifications

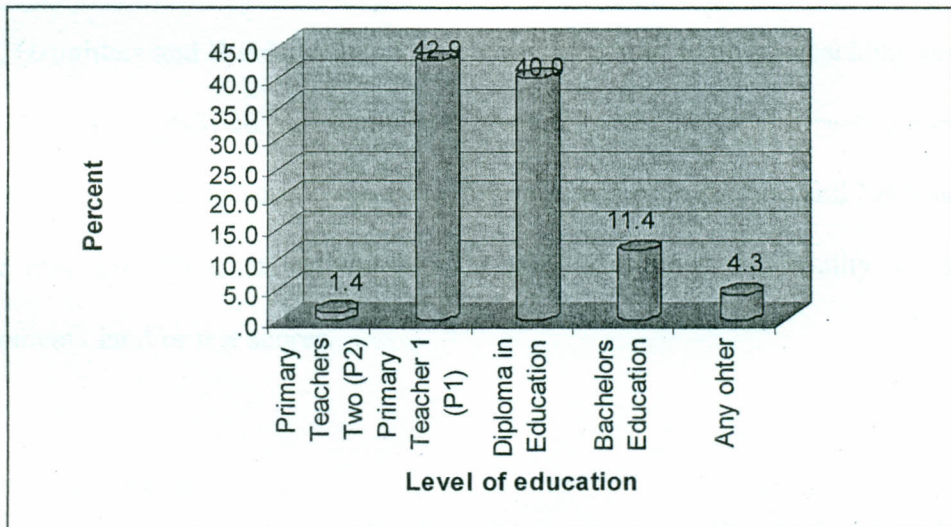
Teacher Quality

Teacher quality is determined by both experience and qualifications. Expectations of teachers are high. They need to be experts in one or more specific subjects, and this demands an increasing level of academic qualifications. They must continually update their expertise and knowledge in order to provide tomorrow's world with the knowledge and skills on which economic and social progress so critically depends. Therefore,

educational institutions and teachers need to respond by developing and delivering appropriate educational content. It is from this perspective that the study sought to establish the level of qualification of teachers in Matungulu Zone and assess their impact on the students' performance.

Karim (1994) believes that the quality of teachers is one of the factors that affect the levels of achievement in basic learning. For her, it is important that teachers of high quality are produced. She argues that the teacher's performance heavily depends on the professional training, attitudes, academic background, and education infrastructure of the institution, the type of leadership and the tradition of the school.

Figure 4.1 Teachers' Level of Professional Training



Source: Researcher

From Figure 4.1, it is clear that majority of teachers in the zone have had some form of training related to teaching. The figure shows that among those who are qualified or

trained, 11.4% had a bachelor of education degree. The number of teachers with a diploma in education were 40.0 % and 42.9% of teachers had Primary level one (P1 certificate) as their highest level of education. On the other hand, 1.4% of teachers in Matungulu Zone had primary two level (P2 certificate) as their highest level of professional training. Further, Figure 4.1 indicates that 4.3% of teachers had received some form of training other than education. This can be interpreted to mean that they were either form four or six leavers with different training other than education.

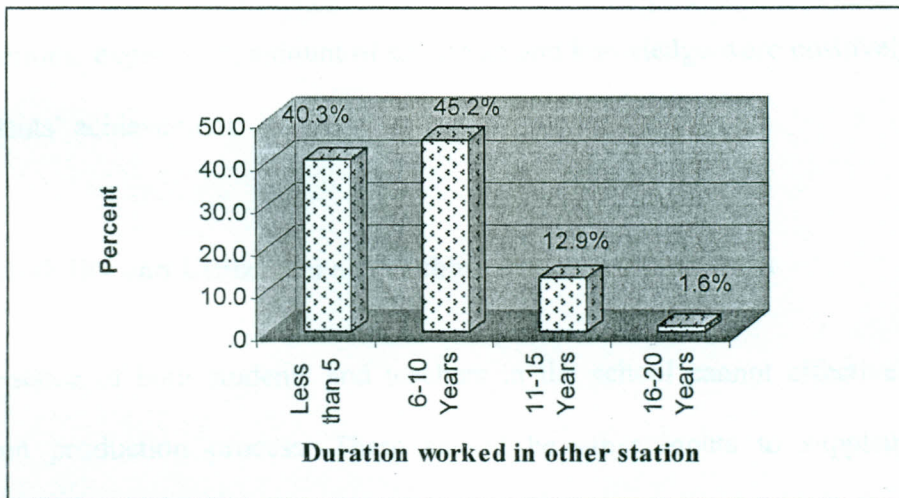
The implication here is that these teachers had an important ingredient that was likely to improve their effectiveness in their respective roles in ensuring good performance in their respective classes and schools. This is because high quality pre-service preparation of teachers is absolutely essential for their effectiveness. In fact, trained teachers are likely to interpret and deliver content better as compared to their colleagues who are untrained (Berry, Daughters and Wieder, 2010; Boyd et al., 2008). Overall, the teaching force in the zone was highly qualified and good performance is expected from such a force when other factors are held constant. This finding agrees with Husen, Saha and Nooman (1998) studies that indicate that professional training improves the quality of students' achievements and/or test scores.

Teacher Experience

It is worthwhile to note that teachers' teaching experience is significant as far as the education process is concerned. The role of a teacher as an input in the education production process is vital. This makes it fundamental for this research base on teacher experience as a key factor influencing academic achievement. In particular, teacher

experience, amount of education and knowledge were positively related to the students' achievement. In this study, three years were taken as the base for the sake of accuracy bearing in mind that Teachers Service Commission (TSC) usually confirms teachers after two years of service.

Figure 4.2: Teachers' Teaching Experience



Source: Researcher

From Figure 4.2 it is clear that majority of teachers (45.2%) had worked in their current stations for 6 -10 years, followed closely by 40.3% of those who had worked for less than 5 years while 12.9% had worked for 11-15 years. It is worthy noting that 1.6% of the teachers had worked for over 15years in their current stations.

From Figure 4.2, it is clear that teachers from the zone have necessary teaching experience. From this, there is every reason to rule out any possibility of inefficiency based on experience of the teaching force. This concurs with Adeyemi's (2008) study which examined teachers' teaching experience and students' learning outcomes in Ondo State in Nigeria and found out that the schools with teachers with five years and above of

teaching experience achieved better results than those having more teachers with less than five years of teaching experience. However, this study revealed that even though most teachers had the necessary experience, good performance was not a guarantee. This scenario contradicts a study conducted by the World Bank (1974) on the relationship between the quality and training of teachers and students' achievement. It concluded that trained and experienced teachers do make a difference. In particular, teacher qualifications, experience, amount of education and knowledge were positively related to the students' achievement

4.4 Availability and Utilization of Teaching /Learning Resources

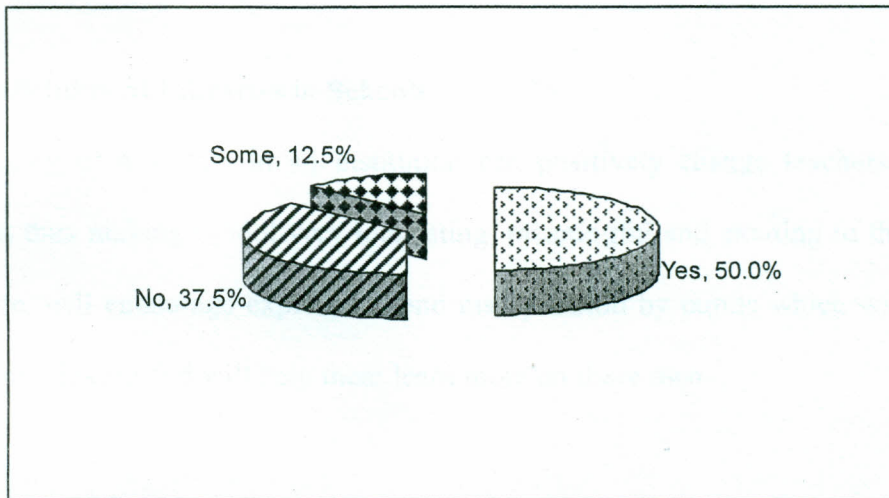
The presence of both students and teachers in the school cannot effectively facilitate education production process. There should be other inputs to supplement and/or complement what the teacher offers. These inputs include the physical resources or the teaching resources/facilities that facilitate the effectiveness and efficiency of education production process. Physical facilities thrive to give pupils a comfortable atmosphere in which they work and learn. They constitute a strategic factor in a school because they determine to a very large extent the smooth functioning of an education system. Their availability and adequacy influence efficiency and high productivity.

(a) Availability of Conducive Classrooms for Learning

In the 8-4-4 system, which is practical or technically oriented, the role of facilities such as physical facilities need not be over-emphasized. Availability of classrooms, libraries and other physical facilities enhances the learning/teaching environment, which is

reflected in the quality and quantity of output. It is from this understanding that there was need to look at how suitable the classrooms were for learning in Matungulu Zone.

Figure 4.3 Suitability of Classes for Learning



Source: Researcher

Figure 4.3 shows that half the schools (50.0%) in Matungulu Zone had conducive classrooms for learning. On the other hand, 37.5% of the schools indicated that classrooms in their respective schools were not conducive for the teaching/learning process. A small percentage 12.5% reported that some of the classrooms were conducive while others were not. It is important to note that one of the headteachers pointed out that the school had many classrooms which were not in use because of their poor state. He further stated that the classrooms had no doors and windows and even the roof was almost coming off. This made both the teacher and the pupil feel insecure, especially if they want to leave their books and teaching aids in class.

This particular head teacher's sentiment concurs with Gakuru (1982) who observed that the condition of the school buildings was an important aspect in the learning process.

Gakuru says that teachers in conducive classrooms with lockable doors and windows are able to leave their teaching aids in the classroom for as long as they wish without fears while those in classrooms without lockable doors or windows experience storage problems with their teaching aids.

(b) Availability of Libraries in Schools

Availability of a library in an institution can positively change teachers' and pupils attitude, thus making school very interesting, meaningful and exciting to the pupils and therefore, will encourage exploration and manipulation by pupils which will keep them alive and thinking and will help them learn more on there own.

It is important to note that all (100%) the head teachers revealed that their schools did not have libraries. They reported that this state of affairs greatly contributed to the poor outcomes in the examinations as many children could not do further reading on their own and most teachers depended only on the textbooks which were available in school. More than half of the head teachers (6 of them) reported that their learners did not have a reading culture. One of them claimed that the problem of performance starts all the way from lower primary and many learners did not post good results due to lack of a reading culture. This problem had been brought about because in the whole zone, no one had thought of putting up a library where learners could go and read. Most of the students lacked a reading culture and therefore they depend entirely on what the teachers taught them.

The above finding implies that students in Matungulu Zone were not exposed to libraries in their respective schools and therefore, they did not possess a reading culture. This means that the students depended entirely on what the teachers had taught them and as a result, many pupils did not post good results. This research finding concurs with Olubor's (1998) study that lack of adequate facilities such as ill-equipped classrooms and libraries leads to low academic achievements.

(c) Availability of other Physical Resources

It is important to note that other physical facilities were adequate in Matungulu Zone.

According to all the head teachers who filled the questionnaire indicated that toilets, dormitories and bathrooms in their respective schools were adequate. This meant that all the primary schools in Matungulu Zone had sufficient toilets, bathrooms and dormitories for both day and boarding schools. As a result, it was expected that the primary schools in the zone could perform well because they enjoyed the provision of good facilities in terms of toilets, bathrooms and dormitories

(d) Availability of Textbooks

Teaching and learning materials such as textbooks affect academic performance of the learners. It is from this understanding that the study established the availability of teaching and learning materials in primary schools in Matungulu Zone.

Availability of books in public primary schools has always been an issue of concern.

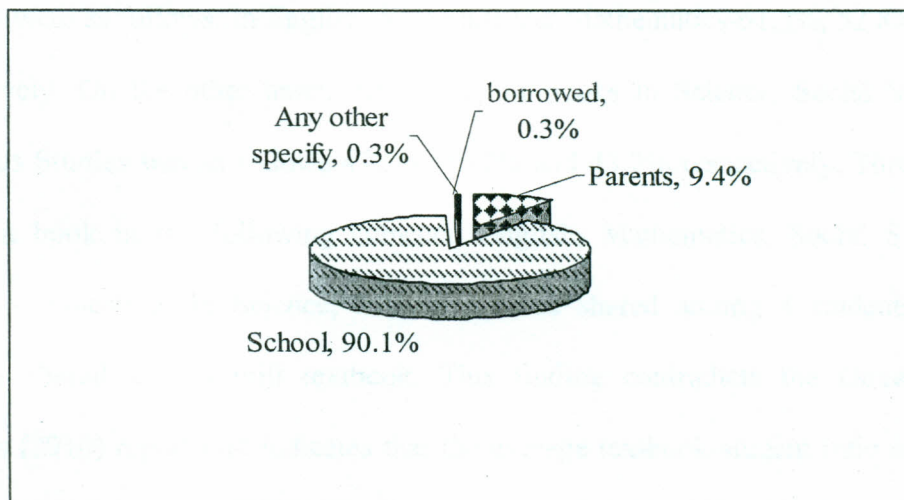
Table 4.1 below shows the adequacy of textbooks in different classes across the school.

Table 4.1 Adequacy of Textbooks in Class

Class	Very adequate	Adequate	Inadequate	Very inadequate
Class 1	9.5%	42.9%	33.3%	14.3%
Class 2	9.5%	66.7%	19.0%	4.8%
Class 3	5.6%	66.7%	16.7%	11.1%
Class 4	8.3%	41.7%	41.7%	8.3%
Class 5	5.0%	37.5%	52.5%	5.0%
Class 6	9.3%	44.2%	34.9%	11.6%
Class 7	14.6%	41.5%	39.0%	4.9%
Class 8	18.6%	48.8%	25.6%	7.0%

Source: Researcher

Table 4.1 above shows the response of teachers on the adequacy of textbooks in the classes they taught. Only in class two and three more than 50.05% of teachers reported that the textbooks were adequate. It is impressive to note that in class eight which is an examination class, majority of the teachers (18.6% and 48.8%) said that the books were very adequate and adequate respectively. This implies that most schools invested in class eight textbooks at the expense of other classes. For example, in class five, there was inadequacy of textbooks. Most teachers (52.5% and 5.0%) reported that the books were inadequate and very inadequate respectively. The same applies to class six and seven. This finding is in consonance with the finding of Mutai (2006) which opined that textbooks affects academic performance of pupils. The study further asserted that learning is strengthened when there is enough reference materials such as textbooks.

Figure 4.4 Provision of Textbooks

Source: Researcher

From the Figure 4.4, it can be noted that 90.1% of the pupils said that the textbooks they used were provided by the school. 9.4% of them said that their parents bought the text books for them whereas 0.3% said that they borrowed the textbooks. Another 0.3% said that they got them from other sources. This finding showed that the government is committed to ensuring that public primary schools are equipped with textbooks to enhance the teaching/learning process.

Table 4.2 Available Textbooks against the Number of Students

Subject	Availability	Textbook: Pupil Ratio
English	61.3%	3:1
Kiswahili	52.8%	2:1
Mathematics	61.0%	3:1
Science	47.5%	4:1
Social studies	46.7%	3:1
CRE/IRE	43.2%	3:1

Source: Research

According to Table 4.2, most teachers reported that availability of books in various subjects were as follows: in English, Kiswahili and Mathematics-61.3%, 52.8% and 61% respectively. On the other hand, availability of books in Science, Social Studies and Religious Studies was as follows-47.5%, 46.7% and 43.2% respectively. Three students shared a book in the following subjects: English, Mathematics, Social Studies and Religious education. In Science, a textbook was shared among 4 students, while 2 students shared a Kiswahili textbook. This finding contradicts the Government of Kenya's (2010) report that indicates that the average textbook-student ratio is 1:2 in all the classes.

4.5 Pupil-Teacher Ratio

Teachers are an important input in any school. The importance of this input is emphasized when we consider the teacher-student ratio. The lower the student-teacher ratio, the better for the school. This means that one teacher is handling few students and the less the number of students per teacher, the better the performance. The role of teachers in education institutions can not be over-emphasized, therefore, UNESCO (2009) observes that without adequate numbers of professionally qualified teachers, including female teachers, who are deployed in the right places, well-remunerated and motivated, adequately supported and proficient in local languages, we cannot offer the world's children quality education. Table 4.3 shows the pupil – teacher ratio in Matungulu Zone.

Table 4.3 Pupil-Teacher Ratio

ENROLMENT						
No.	School	Boys	Girls	Total	No. of Trs.	P:T ratio
1.	A	184	152	336	7	48:1
2.	B	328	268	596	13	46:1
3.	C	211	232	443	10	44:1
4.	D	200	167	367	7	52:1
5.	E	105	111	220	8	30:1
6.	F	211	199	410	8	51:1
7.	G	147	167	314	7	45:1
8.	H	326	327	653	12	54:1
9.	I	161	165	326	7	47:1
10.	J	105	157	262	5	52:1
11.	K	138	145	283	6	47:1
		2116	2090	4202	90	47:1

Source: Researcher

From Table 4.3 above, it is clear that in Matungulu Zone the number of teachers was not matching with the number of pupils. The pupil: teacher ratio was high as compared to the standard pupil-teacher ratio. This implies the zone had fewer teachers than the number that was required and this was likely to negatively affect the students' performance. This finding is supported by David and Krueger (1996) who notes that, children who attend

schools with a lower pupil-teacher ratio and a better educated teaching staff performs better than those from schools with a higher pupil-teacher ratio.

From Table 4.3 it can be concluded that teachers in Matungulu Zone have larger classes which impact negatively on the teaching and learning process especially in terms of giving pupils individual attention, monitoring and evaluating them.

Monitoring and Evaluation

Monitoring and evaluation are vital in any educational organization. It comes in various forms, for example, giving of assignments, continuous assessment tests, marking and revising of work given. Table 4.4 and Figures 4.5 and 4.6 give a summary of how pupils are monitored and evaluated in Matungulu Zone.

Table 4.4 How often Teachers Give Homework

Subjects	After every lesson	Once a week	Sometimes
English	57.9%	3.5%	38.6%
Kiswahili	50.8%	8.9%	40.3%
Mathematics	73.8%	5.1%	21.1%
Science	32.1%	22.0%	45.9%
Social Studies	38.9%	14.5%	46.6%
CRE/IRE	24.6%	14.1%	61.3%

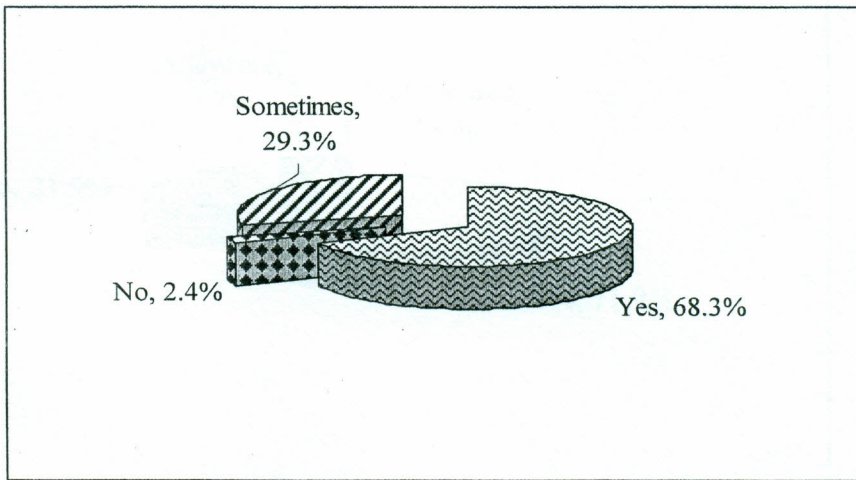
Source: Researcher

From the results in Table 4.4 above, more than half of the pupils (57.9 %) reported that their teachers of English gave them homework after every lesson. Another 3.5 % and 38.6% of the pupils reported that their teachers of English gave work once a week and

sometimes respectively. Further observation of Table 4.4 shows that (50.8 %) of teachers of Kiswahili gave work after every lesson. On the other hand, 8.9 % and 40.3 % of the learners said that their Kiswahili teachers gave work once a week and sometimes respectively.

It is important to note from Table 4.4 that most teachers of Mathematics (73.8 %) gave assignment after every lesson. This finding concurs with studies by UNESCO, 2007 that reinforcement of lessons taught gives pupils an opportunity to practice new concepts taught. It was clear that although teachers in CRE/IRE gave homework to pupils, it was not a common trend. Only 38.9 % of Social Studies teachers and 32.1% of Science teachers gave pupils homework after every lesson. From the results above, it is clear that Mathematics is the only subject where follow up assignment is given most of the times. It is then expected that the subject should post good results. This is closely followed by English and Kiswahili. From the table above the practice of reinforcement of lessons learnt was not very well evident in Science, Socio-Studies and Religious Studies.

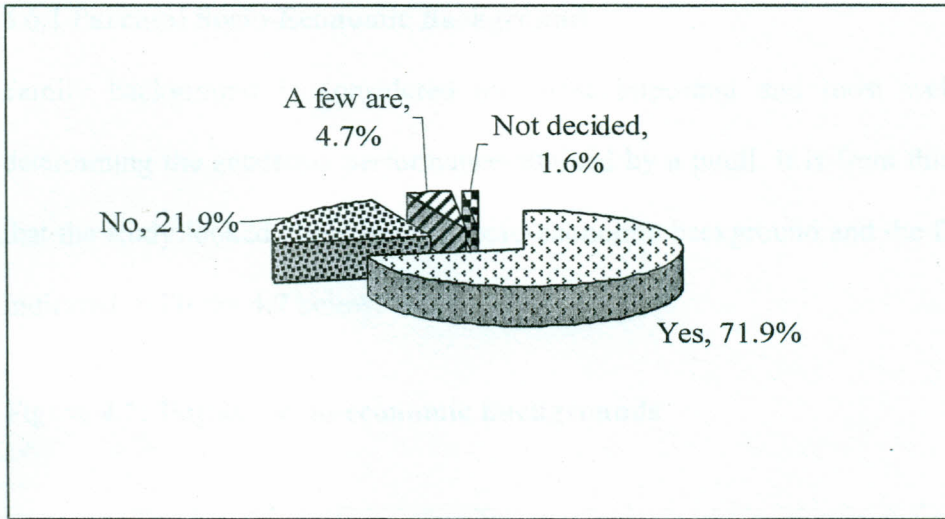
A part from how often homework was given, the researcher also considered whether the given homework was marked. Figure 4.5 shows teachers mark work given to pupils in Matungulu Zone.

Figure 4.5 Marking of Homework

Source: Researcher

Figure 4.5 shows that 68.3% of the pupils reported that their teachers marked the homework they gave them. Another 29.3% said that their teachers did not always mark the homework while 2.4% said that their teachers did not mark the homework they gave. This implies that although teachers gave assignments, they were not sure whether the work was done well and understood by individual pupils since there was no follow up from the teachers most of the times. This may have negative influence since both the teacher and the student may not tell whether the content taught has been mastered or not.

Lack of marking of follow-up assignments especially in Class eight was due to the number of lessons the teachers had. From this understanding, the study sought to find out the workload of Class Eight teachers. This is reflected in Figure 4.6 below.

Figure 4.6 Class Eight Teachers' Workload

Source: Researcher

When class eight teachers were asked whether they were overloaded in their work, 71.9% of them agreed, 21.9% said they were not overloaded while 4.7% said that a few of them were overloaded in their work. Only a very small proportion of 1.6% was found to be undecided on this question. This implies that class eight teachers have a lot of work and so they cannot carry out the teaching and learning process smoothly.

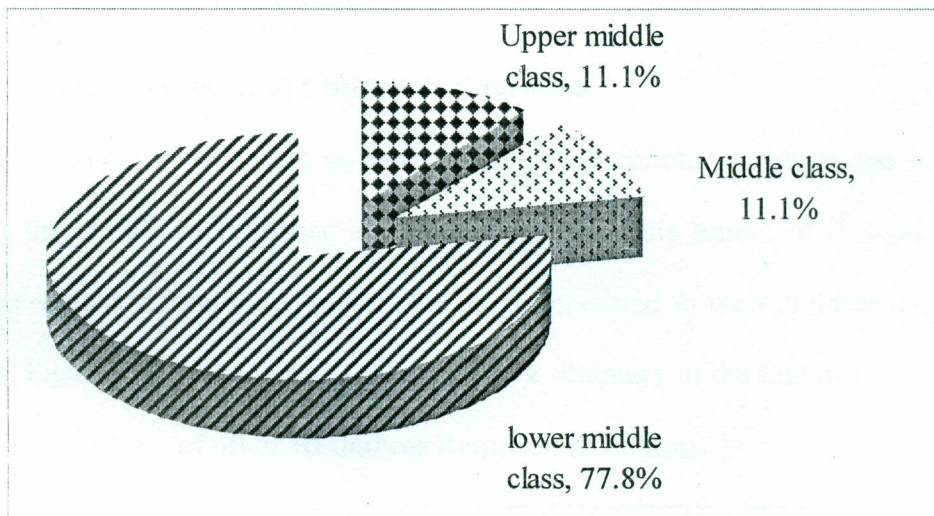
From Figures 4.5, and 4.6 it can be concluded that it is easy to ignore the importance of human interaction when instructing large classes. This means that classroom interaction is affected because teachers find it difficult to give personalized attention to all the pupils, give adequate assignments to test what has been taught and take full control of their classes. This finding is in consonance with the findings of Jungic and Kent (2006) which noted that it is easy to ignore pupils when dealing with a large class and this affects the performance of pupils negatively.

4.6 Non-School Factors

4.6.1 Parental Socio-Economic Background

Family background is considered the most important and most weighty factor in determining the academic performance attained by a pupil. It is from this understanding that the study looked at the pupils' socio-economic background and the findings were as indicated in Figure 4.7 below.

Figure 4.7: Pupils' Socio-economic Backgrounds



Source: Researcher

Figure 4.7 gives a general view of the socio-economic backgrounds of students in Matungulu Zone. From the figure, it can be noted that most pupils (77.8%) came from the lower middle class. Also, 11.1% of the pupils came from the middle class and another 11.1% of them came from the upper middle class. This implies that some families clearly had more resources to devote to their children and could more easily nurture and encourage their children. Wealthier families seem to influence achievement of their children and encourage them to go to school. However, absenteeism, ill health,

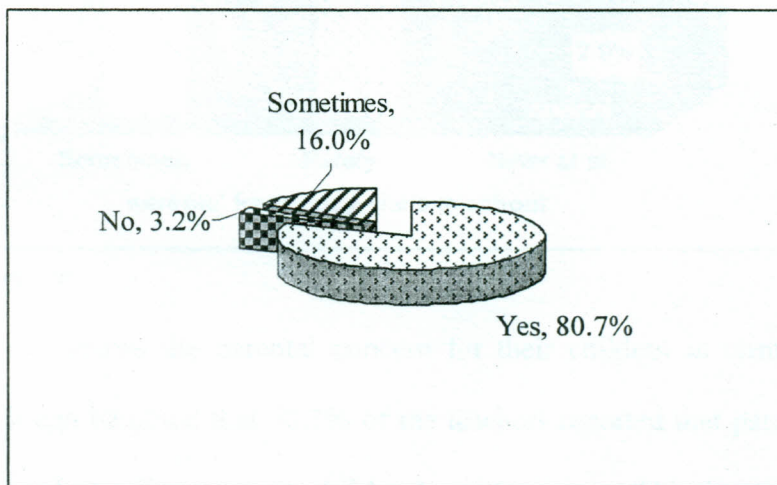
malnutrition, hunger and other elements of children from poor families militate against their growth and achievement in school.

All the head teachers reported that although all parents agreed to send their children for holiday tuition for the purpose of having good performance in KCPE. Most of the parents were unable to pay the cost for tuition. As a result, the pupils were often sent home thereby wasting a lot of time for learning. This finding concurs with Ankale's (2007) study which found that insufficient parental income influenced students' academic performance.

4.6.2 Parental Involvement in Children's Education

Generally, parental involvement in their children's educational activities has a positive effect on the child's performance at school. It is from this school of thought that the researcher sought to find out whether parents get involved in their children's academic activities. Figures 4.8 and 4.9, and Table 4.5 give a summary of the findings.

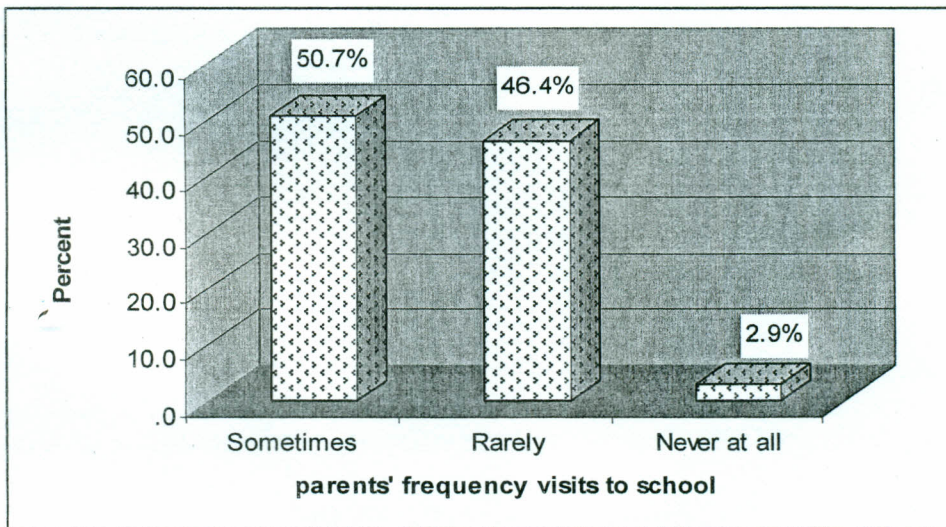
Figure 4.8 Provision of other Resources Required in School



Source: Researcher

Figure 4.8 indicates that most parents (80.7 %) provided all resources that were required in school such as bags, uniforms, pens and books. On the other hand, 16.0 % of the pupils reported that their parents provided the resources required for school but not always. Another small portion of them (3.2 %) said that their parents did not provide any of the required resources. This signifies to a great extent the parents' involvement in their children's academic welfare. A small percentage indicates non-parental involvement in their children's well being. This concurs with a study by UNESCO (2007) that non-parental involvement in children's education had tremendous negative impact on pupils performance. This finding confirms that parents have embraced the cost-sharing policy in education.

Figure 4.9: How frequent parents visit the school to find out the progress of their children



Source: Researcher

Figure 4.9 above shows the parental concern for their children in terms of academic performance. It can be noted that 50.7% of the teachers reported that parents sometimes visited the schools to discuss their children's performance. This implies that slightly above half of the parents were keen on following up their children's performance at

school. Another 46.4% reported that parents rarely visited the school while 2.9% of teachers said that some parents had never visited the school to discuss their children's performance. Parental follow-up was considered important as it makes pupils to work harder in school bearing in mind that their parents were concerned with their academic performance.

Parental Literacy Levels

Parental involvement in their children's literacy practices is a powerful force in determining the child's motivation to read, social and emotional development. Table 4.5 below shows parental ability to read and write.

Table 4.5: Ability of the Parent(s) or Guardian to Read and Write

Ability	Father		Guardian		Mother	
	count	Percent	count	Percent	count	Percent
No, not in either Kiswahili or English	1	.3	1	4.0	1	.3
Yes, in Kiswahili language only	16	5.1	2	8.0	21	6.3
Yes, in Kiswahili & a little English	48	15.4	3	12.0	44	13.1
Yes, very well in both Kiswahili language & English	242	77.6	14	56.0	257	76.7
Yes, in English only	2	.6	1	4.0	8	2.4
I don't know	3	1.0	4	16.0	4	1.2
Total	312	100.0	25	100	335	100

Source: Researcher

The study revealed that most parents (fathers -77.6% and mothers -76.7%) could read and write very well in both English and Kiswahili. It is equally important to note that about 3% of the parents were not able to read and write at all. This implied that most students in Matungulu Zone came from families where parents had basic education and, therefore, they could help their children to improve reading and numeric skills. This goes hand in hand with studies by Baker and Scher (2002) that concluded that parents who know how to read and write promoted the view that reading is valuable and a worthwhile activity and therefore, motivated children to even read for pleasure. Further, Rowe (1991)

acknowledges that parents who know how to read and write have appositive influence on reading achievement, language comprehension, expressive language skills and attentiveness in classroom.

4.6.3 Pupils' Nutritional Concern

Students who pay attention to their daily nutrient needs perform academically better in school, and inadequate nutrition negatively influences intelligence and academic performance. Low levels of protein and iron indicated a correlation with low achievement scores and those with poor nutrition score lower on tests of vocabulary, reading comprehension, arithmetic, and general knowledge. It is from this line of thought that the study sought to assess parental concern for their children's nutrition.

This has been summarized in Table 4.6 below.

Table 4.6: Assessment of parents concern for their children's nutrition

	Frequency	Percent
Very concerned	2	22.2
Concerned	1	11.1
Satisfactorily	5	55.6
Not concerned	1	11.1
Total	9	100.0

Source: Researcher

Table 4.6 shows that 55.6% of the head teachers confirmed that they were satisfied with the parents concern for their children's nutritional and educational needs. 22.2% reported that parents were very concerned whereas 11.1% said that parents were just concerned. It was worthy to note that 11.1% of the parents were not concerned with their children's nutritional and educational needs. This means that most of the parents were interested in their children's education but just a small number did not bother to find out how their

children were fairing on at school. This implies that the small number needed some sensitization on the importance of parental nutritional concern in order to see that children are comfortable in school. Nutrition was deemed appropriate to be in this study because the practice of balanced diet is taken into account and it enables determine the adequacy of energy for the pupil to partake education.

4.6.4 Home Environment and Distance from School

(a) Family Type

This study analyzed the type of families within which the pupils lived. An analysis of the family types was crucial as this variable was thought to have a significant impact on the pupils' performance. Table 4.5 shows the types of families the pupils were living with at the time of the study.

Table 4.7 Family Types that the Pupils were living with

Type	Frequency	Percent
Single parent family	43	11.5
Nuclear family	275	73.5
Extended family	47	12.6
Other	9	2.4

Source: Researcher

Table 4.7 shows that 275 of students (73.5 %) in Matungulu Zone belonged to the nuclear family. Another group of 47 students (12.6 %) lived with the extended family while 43 of them (11.5 %) came from single parent families. Further, Table 4.7 shows that 9 of the

students' population accounted (2.4 %) lived in other forms of families. This means that most students in Matungulu Zone belong to the nuclear family. The kind of family a pupil comes from influences how they perform at school. This is determined by elements of the family such as dynamics of communication, affective relationships, attitudes towards values and expectations.

(b) Current Person living with the student

It is important to note that parents are their children's first teachers and that the home environment shapes a child's initial views of learning. Parents' beliefs, expectations, and attitudes about education and their children's achievement have a profound early impact on students' conceptions of the place of education in their lives. What parents think about the importance (or unimportance) of doing well in school is often mirrored in student results. Because of the fact that parental involvement in their children's learning affects performance at school, this study sought to find out the current person living with the student. This is summarized in Table 4.8.

Table 4.8 Person(s) Living with the Student

	Frequency	Percent
Both parents	267	71.4
Mother only	57	15.2
Father only	9	2.4
Grandparents	40	10.4
Others	3	.5
Total	376	100.0

Source: Researcher

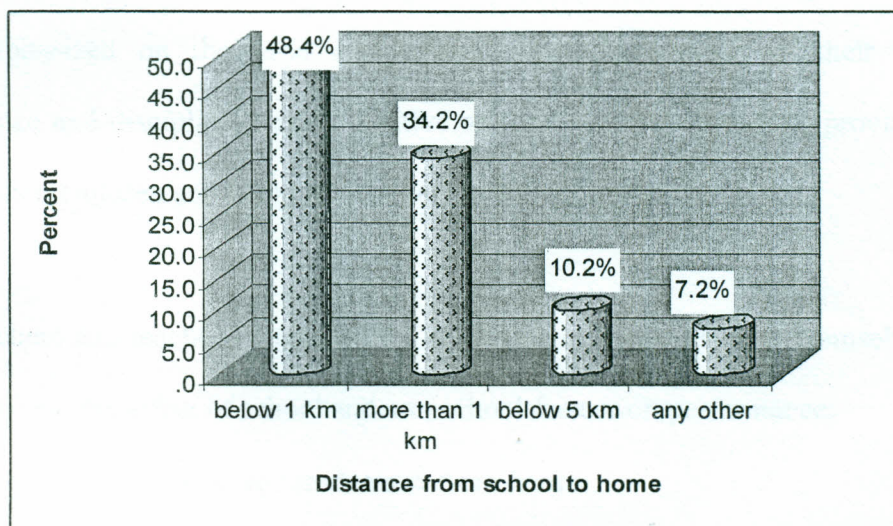
A majority of the pupils (71.4 %) reported that they lived with both their parents. Another 15.2 % reported that they lived with their mothers only. Further still, another 10.4% of the students lived with their grandparents, with only 2.4% of them saying that they lived with their fathers only. This implies that most of the students live with both parents and therefore enjoy parental support. This is because children whose families provide supervision and support, and who have aspirations for their children, tend to multiply those children's chances of being successful students. This concurs with Melhuish, Sylva, Sammons et al. (2000) that children living with both parents have greater cognitive abilities, enjoy school and post higher academic performance. In addition, the presence of a father was significantly and positively related to academic performance.

(c) Distance from Home

Walking distance to school is also considered as a factor that explains academic performance. It is hypothesized that the longer the distance a student has to walk to school, the less he performs at school. This is because by the time the student reaches

school, he/she is tired and this will reduce his/ her performance. The effective time of study is reduced and hence a negative sign for this variable.

Figure 4.10: Distance Travelled from Home to School



Source: Researcher

From Figure 4.10, is clear that a majority of pupils (48.4 %) said that their school was less than one kilometre from their homes. Another 34.2 % said the school was more than one kilometre from their homes. Also, another, 10.2 % said that their homes were less than five kilometres from the school. Further, the figure shows that 7.2 % of the pupils said that the school was quite far from their homes.

4.7 Measures to be taken to address school and non-school factors affecting performance

Head teachers and teachers suggested that the Government should employ more teachers, appoint qualified manpower to head the schools, increase funds allocation to Free Primary Education for smooth running of schools, encourage feeding programmes in schools and equip schools modern libraries and improve on the current facilities in

schools. They also suggested that there was need to hold sensitization meetings for all stake holders encourage remedial teaching and emphasize on guidance and counseling.

They emphasized on the need for parents' close supervision of their children's performance and discipline, having positive attitude towards education, providing basic need for their children and being role models to their children.

Head teachers and teachers suggested the following as measures they themselves would take to address the effect of school and non-school factors on performance:

- Motivate and encourage students to work hard.
- Create good teaching and learning environment
- Be good role models
- Encourage teamwork
- Have close relationship with the students
- Involve parents in their children's academic work
- Complete the entire syllabus in time

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of findings, conclusion and recommendations of the study. The main purpose of this study was to find out the effect of school and non-school factors on KCPE performance in Matungulu Zone, Machakos County.

5.2 Summary of Study Findings

This study sought to answer the following research questions concerning the effect of school and non-school factors on performance in KCPE in Matungulu Zone:

1. How are teachers in Matungulu Zone professionally and academically qualified?
2. What kind of teaching/learning resources are available in the schools in Matungulu Zone?
3. What is the teacher-pupil ratio in Matungulu Zone?
4. To what extent do the non- school factors affect performance in Matungulu Zone?
5. What measures can be taken to address these factors that influence performance of KCPE in Matungulu Zone

The study found out that most teachers in Matungulu Zone possessed the necessary professional qualifications. It also came out from the study that most teachers had the necessary experience to teach in their respective schools. Therefore, it is reasonable to conclude that the composition of teachers on the basis of their qualifications suggests that the explanation of poor education quality is not lack of qualified teachers but could be due to lack of commitment from the teachers.

The study also revealed that most schools invested in class eight textbooks at the expense of other classes and the subject with the highest pupil-textbook ratio was religious studies. It was also clear that no school in the zone had a library. This finding suggests that the government needs to rework its priorities in terms of interventions to improve quality of education in public primary schools. The reasons being that when facilities are provided to meet relative needs of a school system, students not only have access to the reference materials mentioned by the teacher, but individual students learn at their own pace. As a result, the net effect of this is increased overall academic performance of the entire pupils.

A substantial number of schools faced difficulties because of high pupil-teacher ratio. As a result, quite a number of teachers gave follow-up assignments but they were not in a position to mark and correct pupils' work because of heavy workloads. This simply means that enrolment at primary school level has been increasing since the introduction of free primary education in 2003, implying that the government has almost achieved enrolment target levels. However, there are raising concerns on what strategic interventions to be put in place in order to curb the high pupil-teacher ratio.

Majority of the head teachers reported that most of the pupils came from a lower middle class. Despite this assertion, the study found out that a number of parents were rarely involved in their children's academic welfare. The study also revealed that it was important for parents to give their children a sound nutritional advantage since what one eats and drinks affects pupil's performance.

5.3 Conclusion

From the findings of the study, it can be realized that teachers were professionally trained and they had the necessary experience to carry out the teaching/learning process. Despite this training and experience, a majority of the teachers faced the problem of high pupil-teacher ratio and high work loads. Therefore, it was notable that a bulk of the teachers experience difficulties in monitoring and evaluating students.

As a consequence of the foregoing scenario, a substantial number of teachers faced difficulties when implementing curriculum. Due to these difficulties, most of the concerned teachers' concentrated more on teaching class eight at the expense of other classes. They did not exploit the complementary relationship between the other classes to teach an examination class. Therefore, it can be concluded from the findings that there has been no effective implementation of the curriculum in Matungulu Zone as was/is intended by the curriculum developers.

5.4 Recommendations.

Based on the findings of the study, the researcher recommends the following:

1. More funds should be allocated by the government towards recruiting more teachers to ensure that primary schools conform to the international teacher-student ratio standards.
2. Education stakeholders should allocate more financial resources to put up and equip libraries. This will boost performance in most schools.
3. Sensitization of parents towards their children's education should be done.

5.5 Suggestions for Further Research

The study makes the following suggestions for further research:

1. A similar study should be carried out in secondary and university levels of education. It is clear that effect of school and non-school factors of performance at secondary and university level are different from those of primary as has been documented in this study.
2. A study detailed study on more non-school inputs should be carried out to assess the impact of these inputs on the academic performance.
3. A study to establish effect of non-school factors on performance in each of the examinable subjects should be carried out. This will enable policy makers to know specific needs of specific subjects and, therefore, be able to address each subject with respect to its uniqueness.

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QUESTIONNAIRE FOR TEACHERS

I am a postgraduate student at Kwantlen University, pursuing a Master's degree in Education (Educational Psychology). I am collecting data on 'The Impact of School and Student Factors on Performance in EFL in Public Primary Schools in British Columbia, Canada's Coast'.

I would like to provide you with some information by filling in this questionnaire. The questionnaire will be treated with strict confidentiality and will be used for research purposes only. Your name or the name of the institution will not be disclosed.

Please answer the questions as honestly and accurately as possible by filling in the spaces provided.

Display name: _____ Day/Date: ()

Age of respondent: _____

Gender: _____

APPENDIX 1

QUESTIONNAIRE FOR TEACHERS

I am a postgraduate student at Kenyatta University, pursuing a Masters degree in education (Educational Planning). I am collecting data on **'The Impact of School and Non-School Factors on Performance in KCPE in Public Primary Schools in Matungulu Zone, Machakos County'**.

I kindly request you to assist with some information by filling in this questionnaire. The information you will give will be treated with utmost confidentiality and will be used for this study only. Do not write your name or the name of the institution.

Please answer the questions as honestly and truthfully as possible by ticking in the spaces provided.

Section A: General Information

1. School category: Day () Boarding () Day/Boarding ()

2. Age of respondent

Less than 25 years ()

26-30 years ()

31-40 years ()

41-50 years ()

Above 50 years ()

3. Gender: Male [] Female []

4. Please indicate your highest level of education.

Primary Teacher Three (P3) ()

Primary Teacher Two (P2) ()

Primary Teacher One (P1) ()

Diploma in Education ()

Bachelors of Education ()

Masters degree ()

Any other (Specify)

5. (a) Have you ever worked in another station before?

Yes () No ()

(b) If yes, for how long did you work in the other school?

Less than 5 years () 6-10 years () 11-15 years () 16-20years ()

6. How long have you worked in your current station?

0-5 years () 16-20years ()

6-10years () 21-25years ()

11-15years () Above 26 ()

Section B: Teaching and Learning Information

7. Which classes do you teach and what subject?

Subject	Class	No. of Lessons per week	No. of Students per class
English			
Kiswahili			
Maths			
Science			
Social Studies			
CRE/IRE			

8. What is your total workload per week?

9. Are class eight teachers overloaded in terms of work?

Yes () No ()

A few are () Not decided ()

10. Do your pupils show willingness to do assignments?

Yes ()

No ()

Occasionally ()

When punished ()

11. Indicate [for the classes you teach] the extent to which the issue of textbooks to pupils is very adequate/adequate/inadequate/very inadequate.

Class	Very adequate	Adequate	Inadequate	Very inadequate
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

12. How frequently do parents visit the school to find out the progress of their children?

Sometimes ()

Rarely ()

Never at all ()

13. (a) Are teachers rewarded for good/improved performance?

Yes ()

No ()

(b) If yes, how? Can tick more than one answer.

Promotion in grade

()

Increase in remuneration ()

Recognition letter ()

Issuance of a certificate ()

Congratulated verbally ()

Non-Financial reward e.g. tour ()

14. Are classrooms conducive for your students?

Yes ()

No ()

15. (a) Does the school have a school library?

Yes ()

No ()

(b) If yes, is it well equipped?

Yes ()

No ()

16. As a teacher in this school, where do you rank yourself in terms of the following parameters?

Highly motivated ()

Motivated ()

De-motivated ()

Section C: General Academic Performance

17. As at teacher in this school, how would you rate the performance of this school?

Above average ()

Average ()

Below average ()

18. What challenges do you experience in the course of your duty? (Outline at least five.)

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19. In your opinion, what factors lead to the poor or good performance of your school in KCPE? (Give at least five factors.)

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12. What measures do the school administration take to ensure good performance of your school in KCPE? (Outline at least five.)

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13. What do you think the government can do to improve the performance of KCPE in public primary schools generally? (Give at least five measures.)

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APPENDIX 2

STUDENTS' QUESTIONNAIRE

Please fill in the questionnaire as honestly and truthfully as possible. It is strictly for educational purposes and any information given will be treated with confidentiality. Do not write your name or the name of the school.

Section A: General Information

1. In which class are you?

Class Seven ()

Class Eight ()

2. What is your gender?

Male ()

Female ()

3. Please indicate your age bracket.

12 and below ()

13 years ()

14 years ()

15 years ()

16 years ()

17 and above ()

4. Which of the following family types do you currently live in?

Single parent

Nuclear family (father and Mother)

Extended family

Other (specify) _____

5. With whom do you currently live with?

Both parents

Mother only

Father only

Grandparent(s)

Others (specify) _____

Section B: Teaching and Learning Information

6. Who provides textbooks that you use in your school?

Parents ()

School ()

Borrowed ()

Any other (specify) _____

7. Put a tick against the subject(s) in which you have textbooks, and indicate the number of students you share a textbook with per subject.

	Subject	Tick	How many students do you share a textbook with?
1.	English		
2.	Kiswahili		
3.	Maths		
4.	Science		
5.	Social Studies		
6.	C.R.E/ I.R.E		

8. Do you attend morning or evening preps?

Yes () No () Sometimes ()

9. Do teachers supervise or attend the preps?

Yes ()

No ()

Sometimes ()

10. How many times have you been absent from school this year for whatever reason e.g. sickness, work in the shamba, tuition fees? _____

11. Have you been punished for any offence in school e.g. not doing homework or absenteeism? Yes () No ()

12. If you have been punished, was it during class hour or after class hour?

During class hour ()

After class hour ()

13. Have your parents ever come to school this year to discuss your progress with your teacher?

Yes ()

No ()

14. How often do the teachers in the following subjects give you homework?

Put a tick where appropriate.

Subject	After every lesson	Once a week	Sometimes
English			
Kiswahili			
Maths			
Science			
Social Studies			
CRE/IRE			

14. Does the teacher mark the homework he or she gives you?

Yes () No () Sometimes ()

15. How many times in a term do your teachers give you tests?

Weekly () After two weeks () Monthly ()

16. (a) Which subject do you like most?

(b) Why do you like it most?

17 Put a tick against the class you have ever repeated.

Standards

1 ()

2 ()

3 ()

4 ()

5 ()

6 ()

7 ()

8 ()

Section C: Socio-economic Status Information

17. How far is your school from home? Please tick as appropriate.

Less than 1 km ()

More than 1 km ()

Less than 5 km ()

Any other distance (specify)

18. How do you get to school from home?

Walk ()

Bicycle ()

Motor cycle ()

Specify (any other means)

19. Where do you get your lunch from?

Eat at school ()

Carry lunch ()

Go home for lunch ()

20. Do your parents provide all the things required in school, for example, bag, uniform, pens?

Yes ()

No ()

Sometimes ()

21. What is the total number of your family members? _____

22. How many brothers do you have?

None

1 - 5

6 - 10

More than 10

23 How many sisters do you have?

None

1 - 5

6 - 10

24. What is, or was your father's occupation? e.g. farmer, teacher _____

25. What is, or was your mother's occupation? e.g. farmer, teacher _____

26. What is, or was your guardian's occupation (if father and mother are not there) e.g. farmer, teacher _____

In answering questions 27 to 29, use the most appropriate of the following responses e.g. 1 or 2 or 3 etc. to answer each question

1. = No, not in neither Kiswahili or English
2. = Yes, in Kiswahili language only
3. = Yes, in Kiswahili and a little English
4. = Yes, very well in both Kiswahili language and English
5. = Yes, in English only
6. = I do not know

27. Can or could your father read and write?

28. Can or could your mother read and write?

29. If you live with a guardian (other than your father or mother), can or could he/she read and write?

APPENDIX 3
QUESTIONNAIRE FOR HEAD TEACHERS

I am a post graduate student at Kenyatta University, pursuing a Masters degree in education (Educational Planning). I am collecting data on the **“Impact of School and Non-School Factors on Performance in KCPE in Public Primary Schools in Matungulu Zone, Machakos County.”**

I kindly request you to assist me with some information by filling in this questionnaire. The information you will give will be treated with utmost confidentiality and will be used for this study only. Do not write your name or the name of your institution.

Please answer the questions as honestly and truthfully as possible by ticking in the spaces provided.

Section A: General Information

1. School Information

(a) Category: Day () Boarding () Day& boarding ()

(b) Single stream ()

Double stream ()

Triple stream ()

Any other (specify)

(c) Boys () Girls () Mixed ()

2. Age of the respondent

(i) Less than 30 years ()

(ii) 31-40 years ()

(iii) 41-50 years ()

(iv) 51 and above years ()

3. Your Gender: Male () Female ()

4. Please indicate your highest level of education.

Primary Teacher Three (P3) ()

Primary Teacher Two (P2) ()

Primary Teacher One (P1) ()

Diploma in Education ()

Bachelors of Education ()

Masters of Education ()

5. (a) Have you ever worked in a different school before?

Yes ()

No ()

(b) If yes, for how long did you work in the other school?

Less than 5 years ()

6-10 years ()

11-15 years ()

16 and above years ()

6. How long have you worked in the current station?

Less than 5 years ()

6-10 years ()

11-15 years ()

16 years and above ()

7. (a) Does the school have an operational school committee?

Yes () No ()

(b) What is the total number of students in your school this year? -----

(c) What is the total number for?

Boys----- Girls -----

Section B: Human, Physical and Other Resources

8. What is your assessment of the survival rate form one class to the next?

Too high () High () Moderate () Low ()

9. How many non-teaching staff do you have? _____

(a) Are they enough as per the school establishment?

Yes () No ()

(b) Explain.....
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10. Fill in the table below based on the current status of your school.

Attribute	Male	Female
Total number of teachers		
Number of teachers with over 3 years of experience		
Number of teachers with Bachelors of Education degree		
Number of teachers with Diploma in Education		
Number of teachers with P1 training		
Number of teachers without teacher training		

11. What is the teaching workload for most of the teachers?

40 and above periods ()

35-39 periods ()

30-34 periods ()

20-29 periods ()

12. What is the teachers' nature of service?

Contract () Permanent employment ()

13. (a) Are teachers rewarded for good/improved performance?

Yes () No ()

(b) If yes, how? You can tick more than one.

Promotion in grade ()

Increase in remuneration ()

Recognition letter ()

Issuance of a certificate ()

Congratulated verbally ()

Non-financial reward e.g. tour ()

14. As a head teacher in this school, where do you rank yourself in terms of the following parameters?

Highly motivated ()

Motivated ()

De-motivated ()

15. Are the classrooms conducive for your students?

Yes ()

No ()

Some ()

16. Is there a school library in your school?

Yes ()

No ()

(i) If yes, is the library well equipped?

Yes ()

No ()

(ii) Assess the availability of instructional materials in the school following the table below.

	Very adequate	Adequate	Inadequate	Very inadequate
Text books				
Revision				
Materials				
Teacher's guides				

17. If the school has boarding facilities, please rate their adequacy.

	Very adequate	Adequate	Inadequate	Very inadequate
Dormitories				
Bathrooms				
Toilets				

18. How do you assess the parents' concern for their children's nutritional and educational needs?

Very concerned ()

Concerned ()

Satisfactorily ()

Not concerned ()

19. What is the general socio-economic background of the pupils in your school?

Upper middle class ()

Middle class ()

Lower middle class ()

Below lower middle class ()

20. Do parents agree to send children during holiday tuition for the purpose of attaining good performance in KCPE?

Yes ()

No ()

21. What are some of the challenges you face as an administrator in your school?

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.....

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Section C: General Academic Performance

22. How many students got 250 and above marks in the 2010 KCPE results in your school? -----.

23. Indicate against the spaces provided the mean mark for KCPE examination done by current class eight in the year 2011?

- (a) 100-199
- (b) 200-299
- (c) 300-399
- (d) 400 above

22. As a head teacher, how would you rate the performance of this school?

- Above average ()
- Average ()
- Below average ()

23. (a) Are you satisfied by that performance?

- Yes ()
- No ()

(b) Give reasons for your response.

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24. In your opinion, what factors have led to good or poor performance of your school?
(Give at least five factors.)

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25. As an administrator, what are some of the measures that can be taken to improve on the current performance of your school? (Outline five measures.)

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APPENDIX 4**PUBLIC PRIMARY SCHOOLS IN MATUNGULU ZONE**

Primary Schools

Kakulutuini Primary School

Itheuni Primary School

Kalandini Primary School

Kalandini Primary School

Kambusu Primary School

Kanzalu Primary School

Katuluni Primary School

Katwanyaa Primary School

Kikaatini Primary School

King'oti Primary School

Kinyui Primary School

Kwatombe Primary School

Kyekoyo Primary School

Matungulu DEB Primary

Mbuni Primary School

Mukalwa Primary School

Muumoni Primary School

Mwatati Primary School

Sengani Primary School

Uamani Primary School

Source: Matungulu Education Zone