

**ROLE OF SCHOOL BASED FACTORS ON QUALITY OF
EDUCATION IN PUBLIC SECONDARY SCHOOLS IN
NYAMIRA NORTH DISTRICT, KENYA**

By

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the award of the degree of Master of Education in Curriculum Studies,**

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DECLARATION

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

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DEDICATION

This research project work is dedicated to my beloved mother Truphena Imbulani, my beloved wife Pamellah Moraa, my beloved children Leonidah, Mercy, Geoffrey, Marion and Moffat for their support and inspiration to excel and further my studies.

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
EFA	Education for All
FPE	Free Primary Education
GDP	Gross Domestic Product
HIV	Human Immune Deficiency Virus
KCSE	Kenya Certificate of Secondary Education
MOEST	Ministry of Education Science and Technology
NCST	National Council for Science and Technology
NSWDET	New South Wales Department of Education
SPSS	Statistical Package for Social Scientist
UPE	Universal Primary Education
USE	Universal Secondary Education

ABSTRACT

The purpose of this study was to investigate role of school based factors on quality of education in public secondary schools in Nyamira North District, Kenya. Four research questions were formulated to guide the study. Descriptive survey research design was adopted in this study. The sample for the study was 38 principals, 234 teachers, 357 form three and four students. Data were collected by use of questionnaires and was analysed by use of qualitative and quantitative techniques. Findings revealed that learning environment influenced quality of education. Findings also revealed that instructional resources and physical facilities affected quality education. Findings indicated that schools did not have the required instructional resource which affected quality education. Findings further revealed that physical facilities influenced quality education. Assessment materials influence quality education. Based on the findings, the study concluded that learning environment influenced quality of education. Schools did not have adequate number of trained teachers. They also had large classes which teachers were not able to comfortably handle. The study also concluded that instructional resources and physical facilities affected quality education. For example, textbooks were inadequate in their schools, stationery in the schools were inadequate and in poor state. Majority of schools had inadequate laboratory chemicals and equipment. The study also concluded that physical facilities influenced quality education. For instance schools had inadequate classrooms, inadequate laboratories and toilets. The study further concluded that use of assessment materials influence quality education. For example, CATs were not administered frequently which could affect quality education while teachers were dissatisfied with revision supplementary materials. Based on the findings of the study, it was recommended that the school administration should create and enhance conducive school environment which will facilitate effective teaching and learning hence improving quality education provision. The school administration should provide adequate instructional resources which will ensure effective teaching and learning hence enhancing quality education. The school administration and the school management should provide adequate physical resources to ensure quality education is provided to the students and lastly that schools should design proper student assessment materials that will enhance quality education. A study undertaken to investigate other intervening factors outside the school and which have an effect on the quality of education in public secondary schools should be conducted. A study should be undertaken to establish challenges encountered in achieving and maintaining education quality in public secondary schools should be conducted. A study should be undertaken to determine role of INSETS and workshops for teachers on education quality in public secondary schools should be conducted and lastly a study should be undertaken to establish contribution of teacher training and competence on quality education in public secondary schools should be conducted.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Secondary education continues to expand rapidly worldwide. Over one-half billion students were enrolled in secondary schools in 2004, an increase of more than 60 million students in just five years (UNESCO, 2007). According to MOEST (2004), the process of providing quality education begins with proper planning for financial, human and physical resources and curriculum. Curriculum structure and course offerings are the necessary condition for quality secondary education. Osaki (2000) observes that when used in relation to curriculum, the term quality refers to the value or worth of curriculum. Osaki (2000) relates quality to four components of value in curriculum evaluation namely the social context, in which the curriculum is being implemented, the human, material and financial inputs into the education system, the processes of teaching and learning and the product of the system. Quality in this sense therefore refers to the nature and value of context, inputs, processes and outcomes.

Osaki (2000) observes that people talk of quality in education while referring only to the quality of the product (output) in terms of student performance in final examinations or student selection into the next stage the education system. This notion of quality is narrow and doesn't consider the various components of curriculum discussed above.

Liang (2002) observes that in the use context, quality of education refers to student acquisition of knowledge, listed specifically as “transmission of knowledge, skills and other values” and “preparing students for the job world”. According to Hailombe (2011), quality refers to equitable conditions or circumstances within the school or classroom that promote or enhance quality learning for all learners. It includes the provision of curricula, learning materials, facilities, teachers and instructional experiences that enable learners to achieve high standards.

EFA Global Monitoring Report (2005) in the Dakar Framework paper that defined quality in education, recognizes five dimensions of quality: learners, environments, content, processes and outcomes, founded on the rights of the whole child, and all children, to survival, protection, development and participation. In the content, Frick (2012) observes that we evaluate curriculum resources that are made available to students and teachers. For example the quality of text books used should be evaluated. In environment, we evaluate the environment in which students and their teachers are working. For example, if students feel unsafe, the roof is leaking, windows are broken and technology is not working then how can we expect much quality teaching and learning.

According to UNICEF (2000) quality education includes learners who are healthy, well nourished and ready to participate and learn. Quality also refers to children who are supported in learning by their families and communities; environments that are health, safe, protective and gender sensitive and provide

adequate resources and facilities; content that is reflected in relevant curricula and materials for acquisition of basic skills, especially in the areas of literacy, numeracy and skills for life; processes through which trained teachers. It further refers to use of child-centred teaching approaches in a well managed classrooms and skilful assessment to facilitate learning and reduce disparities and lastly outcomes that encompass knowledge, skills and attitudes and are linked to national goals.

According to UNICEF (2000) learning environments are made up of physical, psychosocial and service delivery elements. Physical learning environments or the places, in which formal learning occurs, range from relative modern to well-equipped buildings to open air gatherings. The quality of school facilities seems to have an indirect effect on learning, an effect that is hard to measure.

UNICEF (2000) notes that the quality of school buildings may be related to other school quality issues, such as the presence of adequate instructional materials and textbooks, working conditions for students and teachers, and the ability of teachers to undertake certain instructional approaches. Such factors as availability of latrines, clean water supply, classroom maintenance, furniture availability all have an impact on the critical learning factor of time on task.

Sutton (2000) observes that a welcoming and non discriminatory climate is critical to creating a quality learning environment. In many countries attitudes discouraging girls' participation in education have been significant barriers to

providing quality education to all students. In Republic of Guinea, there has been effort to increase the percentage of school-age girls' enrolment from 17 per cent to 37 per cent. This case shows that efforts to improve the learning environment for girls and all students can lead to real results.

In California USA, Harris and Harris (2004) observed that quality of education in public schools is a major concern but however, efforts are underway to remedy these problems. New data has been documented that the conditions in the schools attended by students are so seriously inadequate that they do not provide an equal opportunity for a quality education. Some of these conditions include lack of qualified teachers, teacher turnover, poor working conditions for teachers, shortage of educational materials including textbooks and other instructional materials and rundown physical facilities. Too many teachers across California lack what they need to teach the state-mandated curriculum in an appropriate educational setting.

In Latin America, Willms (2000) observed that students whose schools lacked classroom materials and had an inadequate library were significantly more likely to show lower test scores and higher grade repetition than those whose schools were well equipped.

In South Africa, Frempong, Reddy and Kanjee (2011) observed that the general education policy is to improve educational resources in the poor school with the hope that access to these resources would provide opportunities for learning and

significantly boost learning outcomes for the poor. Pigozzi (2008) argues that the provision of these opportunities require an understanding of what learners bring to the learning environment, how to provide a conducive learning environment, the relevance of content and appropriateness of learning processes to learners and most importantly the support that the system provides through policies, legislation, resources, administration and management.

In Ghana, according to UNESCO (2000), the Working Group on Education Sector Analysis found the quality of education ‘general low, lower in rural schools than in urban ones, and lower in public than in private schools’. Absence of efficient and effective leadership and management, inadequate qualified teachers, lack of management information systems, teaching and professional competence, irrelevant school curriculum and poor enrolment of girls were some identified hindrances to achieving quality education.

In Tanzania, according to Vavrus (2009), improving the quality of secondary school education is considered important for educating the needed work force for different sectors in member countries including Tanzania. Secondary school education has recently risen in the awareness among people in Tanzania and the demand to access this education has grown. The growth in demand has created the need to build more schools and classrooms in order to expand access opportunities among the children of the country.

In Kenya according to Glennester, Kremer, Mbiti, and Takavarasha (2011), the student performance in the KCSE is poor. In 2008, only 25% of students scored at least a C+ on the KCSE with girls being less likely than boys to score at least a C+. The performance was weakest in District schools, where only 11% of students scored at least a C+, compared to 43% in Provincial schools and 90% in National schools. The difference in performance across these types of schools partly reflects difference in facilities, teachers and other resources. This study therefore sought to assess the role of school based factors on quality of education in public secondary schools in Nyamira North District, Kenya.

1.2 Statement of the problem

In the secondary education in Kenya, improved quality of secondary school education is considered a key element for the growth of economy. It is through the secondary school education that nation build skills and competence among young individuals to serve the various sectors of the economy. In schools, achievements in examinations and students capabilities are used as standards to assess quality. High achievements refer to excellence in a program, a school or an individual learner.

Over the years, the academic performance of secondary schools in Nyamira North District is declining. This is evident from the declining K.C.S.E results posted

from the year 2009 to 2012 as compared to other districts in Nyamira County as shown in Table 1.1.

Table 1.1 Nyamira county KCSE performances 2009-2012

Rank	District	2009	2010	2011	2012
1	Borabu	4.9325	4.8694	4.5460	5.1021
2	Nyamira South	4.2110	4.6105	4.6581	5.0191
3	Manga	4.2015	4.4678	4.6981	5.0001
4	Masaba North	4.2110	4.5684	4.5479	4.9910
5	Nyamira North	3.9285	4.3563	4.4470	4.9211

Source: Nyamira Education County Director's office (2013)

This table shows a dismal performance by students in KCSE in Nyamira North District. The district has trailed the four other districts in the county for the last four years since 2009 with low mean standard scores though gradual improvement. A lot of factors which include class size, student-teacher ratio, teacher behaviour, inadequate physical facilities, inadequate teaching and learning resources, teacher qualification and competence, student and teacher absenteeism and rising cost of education could be assigned to this trend.

In evaluating school based factors and its role on quality of education the interest must not only be in how much knowledge students gain from the curriculum, but also how the curriculum affects the attitude of students towards the need of the society. An assessment on the influence of learning environment, physical

facilities, instructional materials and use of assessment materials on quality of education will be the focus of the study in Nyamira North District, Kenya.

1.3 Purpose of the study

The purpose of this study was to investigate how school based factors affect quality of education in public secondary schools in Nyamira North District, Kenya.

1.4 Objectives of the study

The study was guided by the following research objectives

- a) To determine how learning environment affects quality of education in public secondary schools in Nyamira North District.
- b) To establish how instructional resources affect the quality of education in public secondary schools in Nyamira North District.
- c) To assess how physical facilities affect quality of education in public secondary schools in Nyamira North District.
- d) To establish how use of assessment materials affect the quality of education in public secondary schools in Nyamira North District.

1.5 Research questions

- a) To what extent does learning environment affect quality of education in public secondary schools in Nyamira North District?
- b) To what extent do instructional resources affect quality of education in public secondary schools in Nyamira North District?
- c) How do physical resources affect quality of education in public secondary schools in Nyamira North District?
- d) How do assessment materials affect quality of education in public secondary schools in Nyamira North District?

1.6 Significance of the study

The study may be significant to a number of people and institutions. It is hoped that this study may be useful to sponsors, school administrators and government for it may provide them with information on the standards to be maintained if quality education is to be provided. Principals may find this study helpful for it may enable them address issues that hinder delivery of quality education in their schools. This study may also be useful to teachers who are the implementers of curriculum. The information from this study may provide teachers with insight on teaching and learning in schools. The government may be able to know the current situation in schools as far as implementation of curriculum and delivery of

quality education is concerned. This study may serve as a guide to the government in developing policy on quality education.

1.7 Limitations of the study

The study was limited to school based factors which include learning environment, instructional materials, physical resources and use of assessment materials as the factors affecting the quality of education in public secondary schools. These factors vary from one school to another, thus the findings of this study are based on generalizations. The researcher used standardization approach by looking at factors that cut across. Respondents were also not ready to freely give information required because they were suspicious it was to be used for ill motives. I had however to assure them of confidentiality as the study was for knowledge only.

1.8 Delimitations of the study

The study was delimited to public secondary schools in Nyamira North District. The study was delimited to descriptive survey research design method. The respondents of this study were the principals, teachers and students because they are key informants in this study. The study was delimited to endogenous inputs which are the variables of the study and are within the school control.

1.9 Basic Assumptions of the study

This study was carried out with the assumption that respondents will give truthful information regarding the role of school based factors on quality of education in public secondary schools. Questionnaires were used to collect data and it was assumed that the instruments used were valid and reliable for data collection. The researcher assumed that the respondents provided accurate and truthful information to all the items as contained in the instruments used. It also assumed that the views of the respondents used for the study were representative of the entire population, hence make generalization of the findings possible.

1.10 Definition of terms

Assessment: the process of gathering and interpreting information about student learning.

Effect: positive result of something

Evaluation: refers to establishing the level of worthiness of a learner.

Instructional materials: refers to facilities used in teaching and learning.

K.C.S.E. results: achievement of C+ and above.

Public Secondary School: refers to day and boarding schools owned by government.

School Based Factors: these are factors or conditions within the direct control of school. These are internal factors within the school.

Student: these are form four and form three Students.

Transition: refers to movement of a student from one level of learning to another.

Quality Education: refers to education that qualifies one to join middle level college or any other higher institution of learning.

1.11 Organization of the study

This study is organized in three chapters. Chapter One which is the introduction contains information on the background of the study, the statement of the problem, the purpose of the study, the objectives of the study, research questions, significance of the study, limitations and delimitations of the study, basic assumption of the study, definition of terms as used in the study and organization of the study. Chapter Two contains literature review. It has also theoretical framework, conceptual framework, and the summary. Chapter Three provides details on the research methodology used for the study. It has introduction, research design, target population, sampling procedure, sample size, research instruments, pilot study, validity of instruments, reliability of the instruments, data collection procedures and data analysis techniques. Chapter Four presents the data analysis and interpretation while chapter Five is comprised of summary, conclusions, recommendations and suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter dealt with the literature that sought to objectively answer the research questions presented in the chapter one. It therefore reviews literature on the quality of education, dimensions of education quality, learning environment, instructional materials, physical resources and use of assessment materials. It also has theoretical framework, conceptual framework and summary of literature review.

2.2 The quality of education

Hoy, Bayne and Wood (2000) observed that quality in education is an evaluation of the process of educating which enhances the need to achieve and develop the talents of the customers of the process, and at the same time meets the accountability standards set by the clients who pay for the process or the outputs from the process of educating. According to this definition the key aspects of quality of education are developing the talents of customers in a value-laden way, meeting accountability standards and giving value for money paid.

According to Ncube (2004), “Quality then is simply meeting the requirement of the customers in the customer.” For education, there are different customers, who include parents, government, students, employers, and institutions of higher learning, who all look for different characteristics of quality. The customers do

not only have different expectations of the education provided, but these expectations also change with time, making the quality of education a moving target.

Harvey and Green (1993) described quality from the excellence perspective in two aspects .First, quality is a degree of excellence on judging worth, and second, it is used as a position on an implied scale. To judge a school as excellent means applying outstanding worth or standards in terms of its functioning and that the school is positioned high in relation to others. Defining quality of education in this way is to assume it exceeds the set standards on a given scale (Mosha, 2000).

In terms of goodness in performance, quality of education refers to excellence in performance through established acceptable criteria and standards of good performance (Mosha, 2000). However, standards are social and dynamic, they change with time and societies and hence they become value-laden (Sallis, 2002).

In schools, achievements in examinations (Malekela, 2000) and students' capabilities (Hakielimu, 2007) are used as standards to assess quality. High achievements refer to excellence in a program, a school or an individual learner improve (Manyanga, 2007). In other words, high achievements are used as standards to improve or upgrade the performance of individuals, both teachers and students in institutions (Lomas, 2007).

2.3 Role of learning environment on quality of education

According to Rieber (2001), a learning environment is a space where the resources, time and reasons are available to a group of people to nurture, support, and value their learning of a limited set of information and ideas. It is most common to describe a learning environment by the types of resources to be found there, but while the resources are crucial to a learning environment's effectiveness, resources are only as good as the conditions under which one has access to them.

The learning environment includes educational personnel which includes teachers and the non teaching staff. But teachers are the principal factor in educational provision and thus affect quality of education in a significant way. Attributes of concern include number of teachers available, pupils-teacher ratios, and the personal characteristics of the individual teachers. These personal characteristics include academic qualification, pedagogical training, content knowledge, ability or aptitude, years of service/ experience.

According to Ankomah, Koomson, Bosu and Oduro (2005), actual class size may be larger than measured pupil-teacher ratios because of teacher, absenteeism and specialization. Some researchers argue that measured pupil –teacher ratios are reasonable approximation of actual class sizes, especially, at primary schools. Education quality is much higher when the pupil-teacher ratio is much lower and this improves students' achievement.

According to Ankomah, Koomson, Bosu and Oduro (2005), once children are enrolled, it is crucial to ensure that they remain at school long enough to complete the curriculum and acquire basic skills. For a variety of school or family related reasons, large numbers of children drop out of school, or more accurately, are pushed out (e.g. by the costs of schooling or by child –unfriendly environment in the classroom) or by drawn out to participate in household economic activities before completing school. In Ghana, the government has currently introduced a policy of free feeding of pupils and banned all fees at the basic schools in order that money does not become an inhibitive factor for pupils' access to quality education.

The level of pupils repeating a class also determines the quality of the education system. High repetition rate will indicate a lower raw material of students. Repetition rate is measured as the percentage of repeaters in the total number of students enrolled at a given level. The rate of repetition would however, also be influenced by variations in the promotion standards of schools. Repetition rates at the primary level are much higher in the developing countries. At the secondary level, the repetition rates are similar. Ankomah, Koomson, Bosu and Oduro (2005), observe that how teachers are prepared for teaching is an indicator of education quality. The potential indicators deal with such aspects as academic qualification, pedagogical training, years of service/experience, ability or aptitude and content knowledge.

2.4 Role of Instructional materials on quality of education

According to Ankomah, Koomson, Bosu and Oduro (2005), the content of education is conical in determining learning outcomes. The type relevance and the volume are important. The materials that support teaching and learning, them type, quality and quantity impact significantly on the quality of education.

According to Ankomah, Koomson, Bosu and Oduro (2005), resources available to the students in school can influence students' achievement. Various indicators such as pupil-teacher ratios, expenditure per pupil, teacher salary and education level, availability of teaching materials can measure these resources. Although certain teaching strategies can be effective even for large classes, students are often unruly in these setting. Moreover, teachers in large classes tend to focus more on rote learning, rather than on problem solving skills (Psacharopoulos and Woodhall, 1985). Another resource of a school necessary for achieving quality is the intensity of operation. The length of the term indicates how intensively schools are operated but can also be a signal of how importantly school education is perceived in a society.

2.5 Role of physical resources on quality of education

According to Ankomah, Koomson, Bosu and Oduro (2005), educational facilities are about school space and equipment including classroom and other building, challenging boards, pupil and teacher furniture (tables and chairs), places of

convenience water etc. The standard of construction, the condition of the facilities and the specialized rooms are all important areas to consider.

Fuller (1999) revealed that physical learning environments or the places in which formal learning occurs, range from relatively modern and well-equipped buildings to open-air gathering places. The quality of school facilities seems to have an indirect effect on learning, an effect that is hard to measure. Some author argued that “extant empirical evidence is inconclusive as to whether the condition of school buildings is related to higher students’ achievement after taking into account student’s background”.

Reddy (2006) reported that in physical facilities area problems emerged at times of booming enrollments. During a period of total pupil increases, the impact was felt first at the elementary level. Many communities had found it necessary to expand their facilities but they not had sufficient time and resources to recover, through normal amortization, to turn their attention to added facilities at the secondary level. With heightening demands on the secondary schools, maintenance factors and the most efficient use of existing facilities had given more importance.

American Association of School Administrators (1999) reported that students were more likely to prosper when their environment was conducive to learning. Environmentally responsive heating, air conditioning and ventilating systems,

either in a new or renovated school, provided a more comfortable learning environment.

2.6 Role of assessment materials on quality of education

Assessment is the process of identifying, gathering and interpreting information about students learning. The central purpose of assessment is to provide information on student achievement and progress and set the direction for ongoing teaching and learning. Nelson and Price (2007), observe that assessment is used to describe the process of trying to determine what students already know about a topic before instruction.

According to Alberta Learning (2003), assessment is systematic effort to determine to what degree of complexity students know and understand important aspects of the curriculum, and how well they can demonstrate that understanding skill and knowledge. Assessment results inform students, their parents and you the teacher, about students' progress toward short and long-term goals. Assessment information provides students with directions for additional work, review and areas for growth. It indicates what you are teaching effectively and what you might wish to change, emphasize or extend.

According to Ankomah, Koomson, Bosu and Oduro (2005), one indicator of schooling quality is students' scores on internationally, standardized or nationally comparable tests of achievement in knowledge, skills behaviour and attitudes.

The effects of non-school inputs, such as parental background, would have to be held constant to isolate the effect of schooling on test scores. The tests of cognitive achievement are good predictors of students' future earnings. Evidence also shows that test scores are highly correlated with economic performance in aggregated data. This indicates that the quality of education, in addition to the quantity, is an important ingredient of human capital formation.

2.7 Summary of literature review

According to Hoy, Bayne and Wood (2000), quality in education is an evaluation of the process of educating which enhances the need to achieve and develop the talents of the customers of the process, and at the same time meets the accountability standards set by the clients who pay for the process or outputs from the process of educating.

Fuller (1999) revealed that physical learning environments or the places in which formal learning occurs, range from relatively modern and well-equipped buildings to open-air gathering places. The quality of school facilities seem to have an indirect effect on learning and it is the factor that exist within the areas whose role on education quality in public secondary schools in Nyamira North District have been researched on.

2.8 Theoretical framework

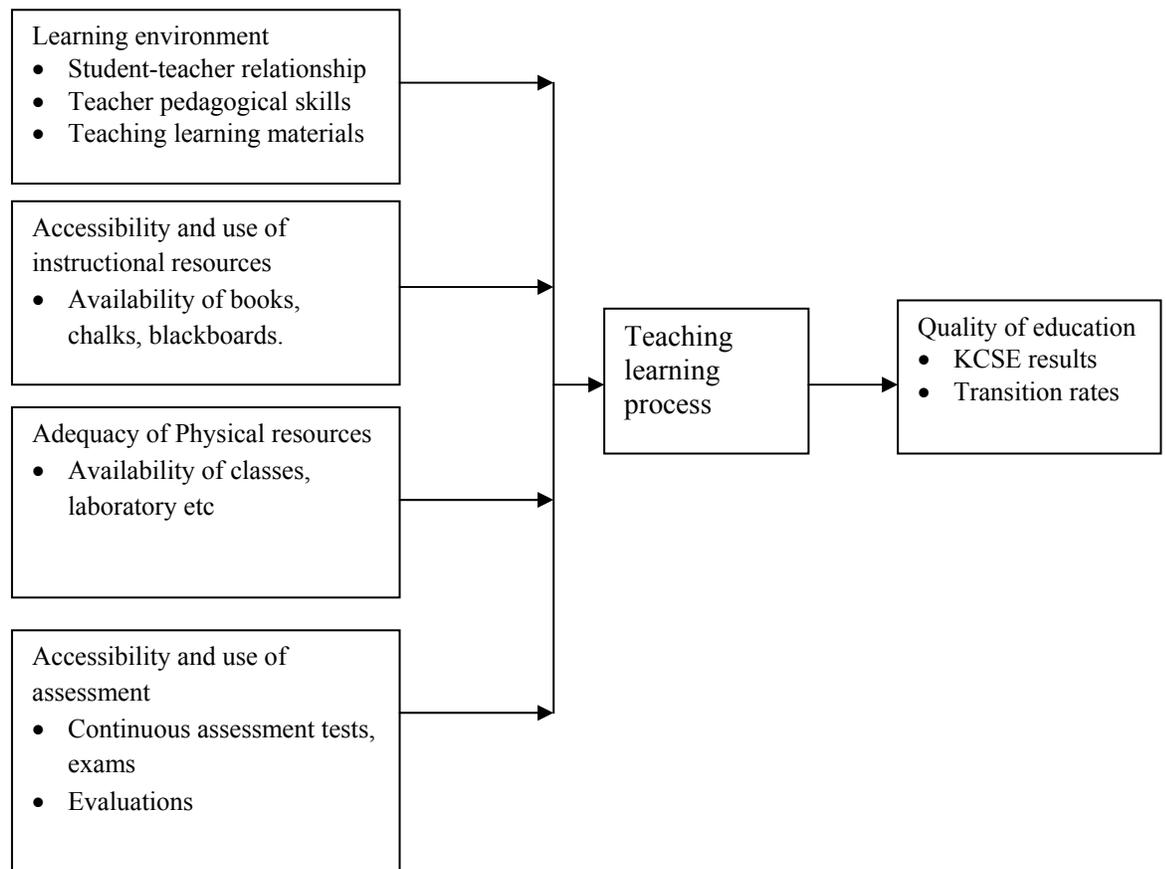
This study was based on Value added theory. According to Hill(1995), value added measures are those that attempt to indicate the educational value that the

school adds over and above that which could be predicted given the backgrounds and prior attainments of the students within the school. These measures indicate in which areas and with students schools are performing well or performing below expectations. This can assist in directing effort and resources to improve the learning outcomes of their student.

These measures include teaching and learning materials, school self evaluation, teacher assessments of students and learning environment which are seen to be effective in influencing quality of education in Nyamira North District.

2.9 Conceptual Framework

Fig. 2.1 Conceptual framework of the school based factors which influence the quality of education in public secondary schools



In the conceptual framework depicted in the figure 2.1 above school based factors are influenced by learning environment, use of instructional materials, adequacy of physical facilities and use of assessment materials. However, these factors may be possible through teaching and learning process and government policy.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This study investigated the role of school based factors on quality of education in public secondary schools in Nyamira North District, Kenya. This chapter presents details of research design, target population, sample size and sampling techniques, data collection instruments, validity and reliability of the research instruments, data collection procedures and data analysis techniques.

3.2 Research Design

Descriptive survey research design was adopted in this study. The researcher provided qualitative and numeric descriptions of the sample from the population. Descriptive survey is ideal for this study because the researcher seeks to establish the role of school based factors on quality of education in public secondary schools in Nyamira North District, Kenya.

3.3 Target Population

The target population was 38 public secondary school principals, 573 teachers and 4862 form three and form Four students in Nyamira North District.

3.4 Sample size and Sampling Techniques

According to Mugenda and Mugenda (2003), sampling is the process of selecting a number of individuals or objects for study in such a way so that the individuals or elements represent the larger group, or the population from which they are

selected. The research used purposive sampling in selecting the 38 principals and 357 students from 4862 form three and form four students. Form three and form four students were selected because they been in school longer and therefore they have information on school-based factors and their effects on the quality of education in school. Simple random sampling was used in selecting teachers. Simple random sampling ensures that each teacher in the target population had an equal and independent chance of being included in the sample.

Sample size was based on the Krejcie & Morgan (1970) as shown below. The table below shows the sample size.

Table 3.2 Krejcie & Morgan (1970) sample size table

N – n	N – n	N – n	N – n	N – n
10 – 10	100 – 86	280 – 162	800 – 260	2800 – 338
15 – 14	110 – 86	290 – 165	850 – 265	3000 – 341
20 – 19	120 – 92	300 – 169	900 – 269	3500 – 346
25 – 24	130 – 97	320 – 175	950 – 274	4000 – 351
30 – 28	140 – 103	340 – 181	1000 – 278	4500 – 354
35 – 32	150 – 108	360 – 186	1100 – 285	5000 – 357
40 – 36	160 – 113	380 – 191	1200 – 291	6000 – 361
45 – 40	170 – 118	400 – 196	1300 – 297	7000 – 364
50 – 44	180 – 123	420 – 201	1400 – 302	8000 – 367
55 – 48	190 – 127	440 – 205	1500 – 306	9000 – 368
60 – 52	200 – 132	460 – 210	1600 – 310	10000 – 370
65 – 56	210 – 136	480 – 214	1700 – 313	15000 – 375
70 – 59	220 – 140	500 – 217	1800 – 317	20000 – 377
75 – 63	230 – 144	550 – 226	1900 – 320	30000 – 379
80 – 66	240 – 148	600 – 234	2000 – 322	40000 – 380
85 – 70	250 – 152	650 – 242	2200 – 327	50000 – 381
90 – 73	260 – 155	700 – 248	2400 – 331	75000 – 382
95 – 76	270 – 159	750 – 254	2600 – 335	100000 – 384

Source: Krejcie& Morgan, 1970 sample size table.

The sample for the study was 38 principals, 234 teachers, 357 form three and four students.

3.5 Research Instruments

The researcher used questionnaire as the main instrument for collection of data. According to Mugenda and Mugenda (2003), a questionnaire address a specific objective, research questions on hypothesis of the study. The researcher also established information obtained from each questionnaire item when analyzed. The researcher was mainly was concerned with the views and opinions of the respondents concerning the role of school- based factors on quality of education in public secondary schools in Nyamira North District, Kenya.

3.6 Validity of the instruments

According to Mugenda and Mugenda (2003), validity is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study. The instrument was subjected to analysis by experts in the area being investigated to assess the relevance of the content used in the questionnaire developed. The expert examined the questionnaire individually and provided the researcher with feedback which assisted to point at areas that required improvement and changes.

3.7 Reliability of the instruments

According to Mugenda and Mugenda (2003), a research instrument yields consistent results on data after repeated trials. Reliability in research is influenced

by random error. Random error is the deviation from a true measurement due to factors that have not been effectively addressed by the researcher. The researcher minimized random error and hence increased reliability of the data collected.

According to Orodho (2004), a test-retest was used to estimate a degree to which the same results were to be obtained with the repeated measure of accuracy of the same concept in order to determine the reliability of the instrument. In this study, a reliability coefficient was computed using spearman rank correlation coefficient to determine the extent of correlation. A correlation coefficient of between 0.6 – 1 was be considered reliable.

$$R = 1 - \frac{6 \sum d^2}{n(n^2 - 1)}$$

Where

n = number of items ranked

d = difference in rank

3.8 Data collection procedures

Kothari (2003), Data collection is a procedure that begins after a research problem has been identified and the design chalked out. The researcher sought permit through the assistance of the University of Nairobi from the National Council for Science and Technology (NCST) before embarking on the research.

The researcher visited District Education Office in Nyamira North District to obtain permission letter to conduct study in the district. The researcher made a visit to each public secondary school and created rapport with the principals,

teachers and students and also explained the purpose of the study and then administered research instruments to them. According to the Best and Khan (1987), the person administering the instruments has an opportunity to establish the rapport, explain the purpose of the study and meaning of items that may not be clear. The respondents were assured of strict confidentiality of the information given by them. The researcher then collected the questionnaires immediately after they had been filled.

3.9 Data Analysis Techniques

The researcher analyzed data qualitatively. According to Mugenda and Mugenda (2003), in qualitative analysis the researcher obtains detailed information about phenomenon being studied and then tries to establish patterns, trends and relationships from the information gathered. The data was organized, edited and summarized using computer data analysis software such as the statistical package for social scientist (SPSS). Data analysis outputs included descriptive statistics, means, frequencies and percentages. The results were presented in the form of tables and figures.

CHAPTER FOUR

DATA ANALYSIS PRESENTATION AND INTERPRETATION

4.1 Introduction

Presented in this chapter are data analysis, presentation and interpretation of findings. The data presented in this chapter were processed using Statistical Package for Social Sciences (SPSS). The chapter presents the questionnaire return rates, the demographic information of the respondents and lastly addressed the research questions as they follow each other.

4.2 Questionnaire Rate of Return

Questionnaire return is the proportion of the questionnaires returned after they have been issued to the respondents. Out of the 38 principals, 234 teachers, and 357 form three and four students sampled during the study, 30 principals, 225 teachers, and 345 form three and four students filled and returned the questionnaires. The return rates were above 80% and hence were deemed adequate for data analysis.

4.3 Demographic data of the respondents

This section presents the demographic data of the principals, teachers and students that were sampled. The section presents that demographic data of the principals and then presents that of teachers.

4.3.1: Demographic data of the principals

The demographic data of the principals was based on their gender, academic qualification and the category of school that they were teaching. To establish the gender of the principals, they were asked to indicate their gender.

Figure 4.1: Distribution of the principals by gender

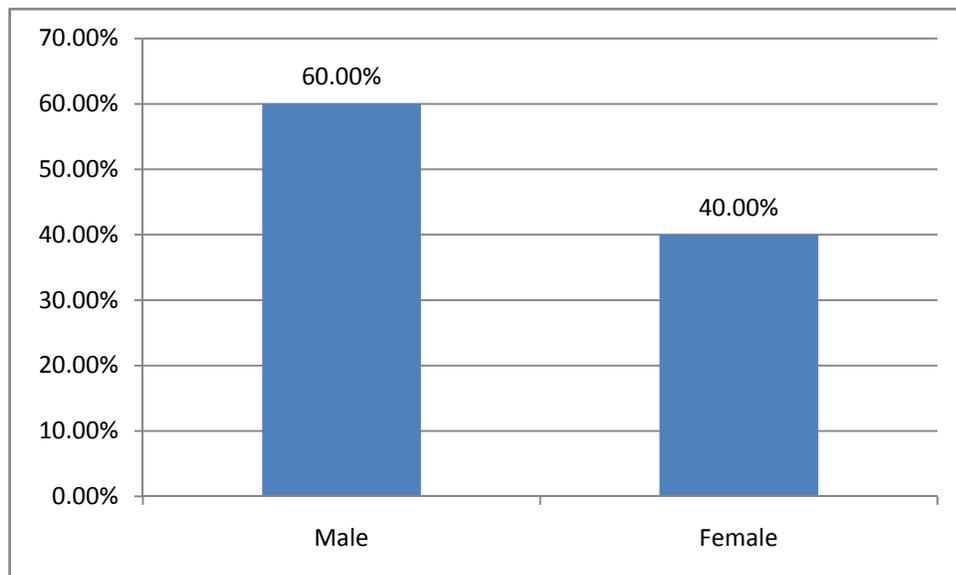


Figure 4.1 shows that majority 18(60.0%) of the principals were male while 12(40.0%) of the principals were female. The data shows that there was no gender distribution in school leadership in the district. The principals were further asked to indicate their academic qualifications. Table 4.1 shows academic qualification of the principals

Table 4.1 Distribution of the principals by academic qualifications

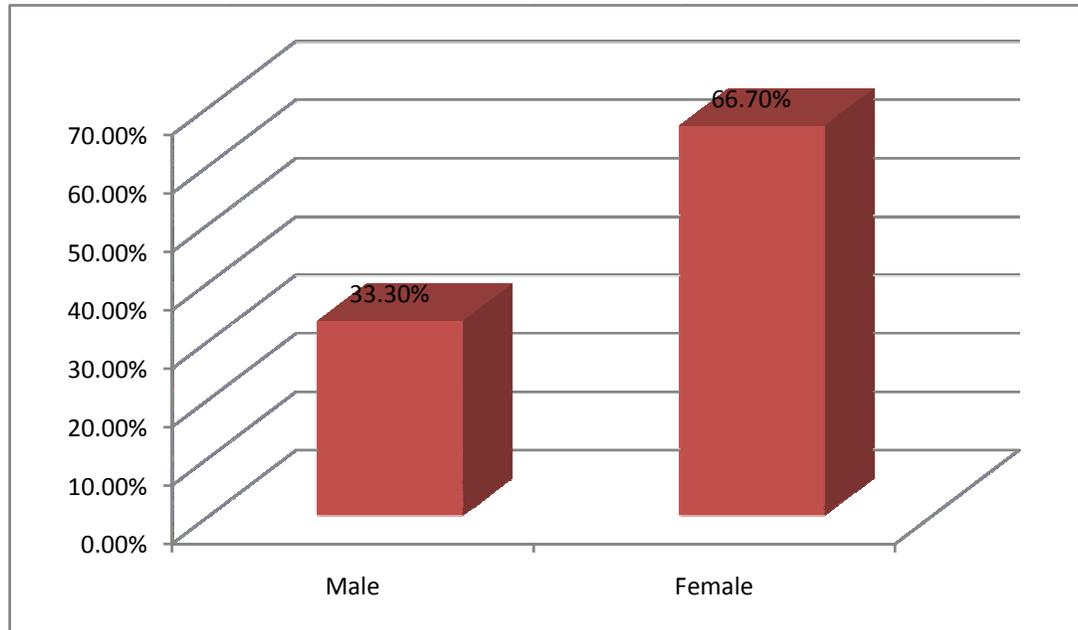
Academic qualification	F	%
Master	11	36.7
Degree	16	53.3
Diploma	3	10.0
Total	30	100.0

Table 4.1 shows that majority 16(53.3%) of the principals had degree qualification, 11(36.7%) of principals had masters while 3(10.0%) of principals had diploma qualification. The data implies that the principals had high academic qualifications which puts them in a position to provide information on school based factors on quality of education in public secondary schools in the district.

4.3.2: Demographic data of the teachers

The demographic data of the teachers was based on their gender and academic qualification. To establish the gender of the teachers, they were asked to indicate their gender.

Figure 4.2: Distribution of the teachers by gender



Data shows that majority 150(66.7%) of teachers were female while 75(33.3%) of teachers were male. Data implies that there were more female teachers in the district. Asked to indicate their academic qualifications, table 4.2 shows academic qualification of the teachers.

Table 4.2 Distribution of the teachers according to academic qualification

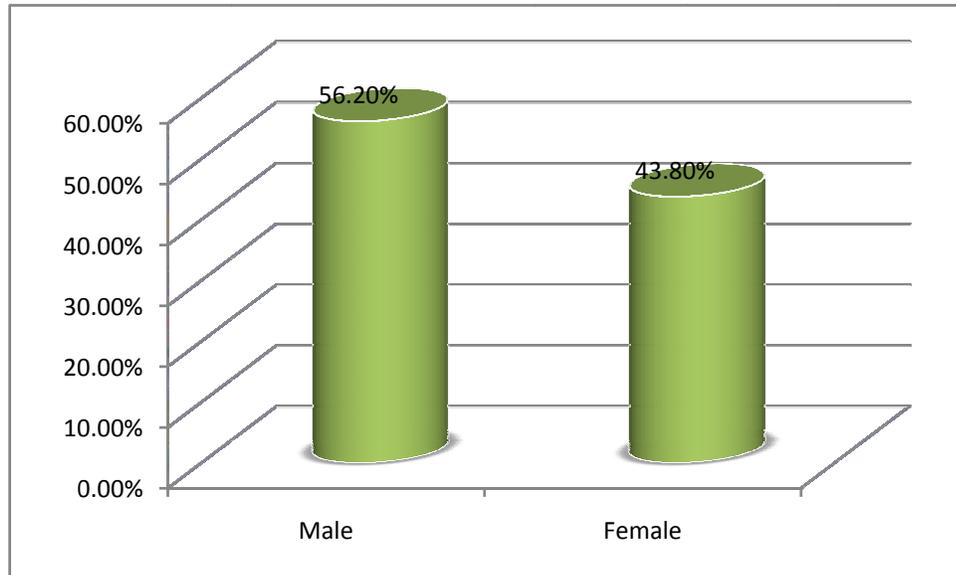
Academic qualification	F	%
Master	25	11.1
Degree	85	37.8
Diploma	115	51.1
Total	225	100.0

Data shows that majority 115(51.1%) of teachers had diploma, 85(37.8%) of teachers had degree while 25(11.1%) of teachers had masters qualification. The data shows that majority of the teachers had the minimum academic qualifications and even higher qualification to provide information on the school based factors on quality of education in public secondary schools in Nyamira North District.

4.3.3: Demographic data of the students

The demographic data of the students was based on their gender and their form. Figure 4.3 shows gender of the students.

Figure 4.3: Distribution of the students by gender



Findings shows that majority 194(56.2%) of students were male while 151(43.8%) of students were female. The data shows that the number of male students was relatively higher than that of female students.

Table 4.3: Distribution of the students by class

Form	F	%
Three	133	38.6
Four	212	61.4
Total	345	100.0

Table 4.3 on the distribution of students in terms of forms shows that majority 212(61.4%) of the students were from form four while 133(38.6%) of students

were from form three. These are students who have been in schools for relatively longer time and hence have the information on the role of school based factors on quality of education in public secondary schools in the district.

To establish the school status, the principals were asked to indicate the same.

Table 4.4 shows the findings.

Table 4.4: School status

School status	F	%
Boys boarding	6	20.0
Girls boarding	8	26.6
Boys day	5	16.7
Girls day	2	6.7
Mixed boarding	3	10.0
Mixed day	6	20.0
Total	30	100.0

Data shows that 8(26.7%) of the schools were girls boarding, 6(20.0%) of the schools were boys boarding and the same number of schools were mixed day. 5(16.7%) of principals said that their schools were boys day while 3(10.0%) of the schools were mixed boarding. To establish the performance status of the

schools, the principals and teachers were asked to rate their school in terms of K.C.S.E Mean Standard score. Figure 4.4 shows principals responses.

Figure 4.4 : Principals’ rating of their schools in terms of K.C.S.E Mean Standard score

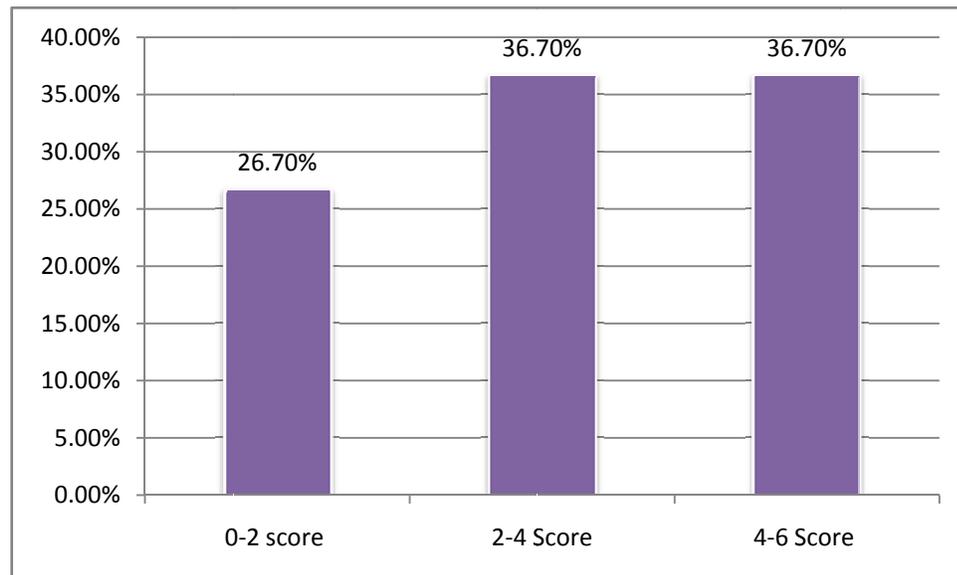


Figure 4.4 shows that 11(36.7%) of principals said that they had between 2 and 4 mean standard score, the same number had between 4 and 6 while 8(26.7%) of principals indicated that they had below 2 mean score. The data shows that performance was not very good hence a need to the investigation on the factors leading to the poor performance. Teachers were also asked to rate the school performance and responded as indicated in table 4.5.

Table 4.5: Teachers’ rating of the schools in terms of K.C.S.E Mean Standard score

K.C.S.E Mean score	F	%
0-2	54	24.0
2-4	93	41.3
4-6	78	34.7
Total	225	100.0

Data shows that 93(41.3%) of teachers had a mean score of between 2 and 4, 78(34.7%) of teachers said they had between 4 and 6 while 54(24.0%) of teachers had a mean score of below 2. The data confirms the findings of the teachers that performance was not very good which affected quality education provision in the district.

4.4 Effect of learning environment on quality education

According to Rieber (2001), a learning environment is a space where the resources, time and reasons are available to a group of people to nurture, support, and value their learning of a limited set of information and ideas. It is most common to describe a learning environment by the types of resources to be found there, but while the resources are crucial to a learning environment’s effectiveness, resources are only as good as the conditions under which one has access to them. One of the objectives of the study was to determine how learning

environment affected quality education. To determine how learning environment affected quality of education in public secondary schools, the principals were asked to indicate the size of their school. Figure shows their responses.'

Figure 4.5: Size of the school

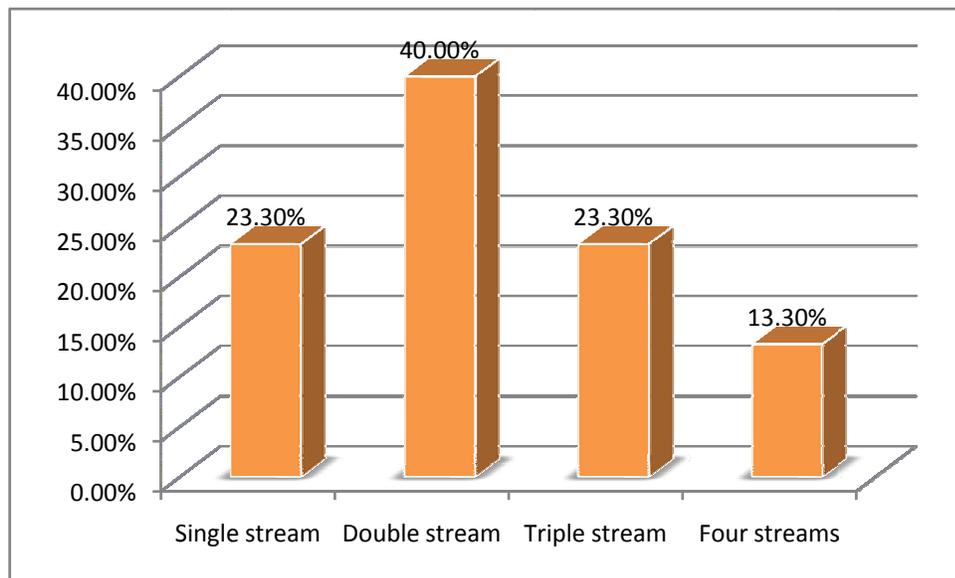


Figure 4.5 shows that 7(23.3%) of principals had single stream in their school, the same number of principals had triple stream, 12(40.0%) of principals had double stream while 4(13.3%) of principals had four streams. The data shows that most of the schools were double streams. The researcher further sought to establish from the principals the number of trained teachers in their school. Table 4.6 tabulates the findings.

Table 4.6: Principals' responses on the number of trained teachers in their schools

Teachers	F	%
1-10	11	36.7
20-30	17	56.6
Above 30	2	6.7
Total	30	100.0

Table 4.6 shows that majority 17(56.7%) of principals had between 20 and 30 trained teachers 11(36.7%) of principals had between 1 and 10 while a significant number 2(6.7%) of principals indicated that they had above 30 trained teachers. The data shows that there were cases where the number of trained teachers were relatively few which could affect provision of quality education. The principals were further asked to indicate the number of students in the classes. The data is presented in Figure 4.6.

Figure 4.6 Principals' responses on the size of classes in their schools

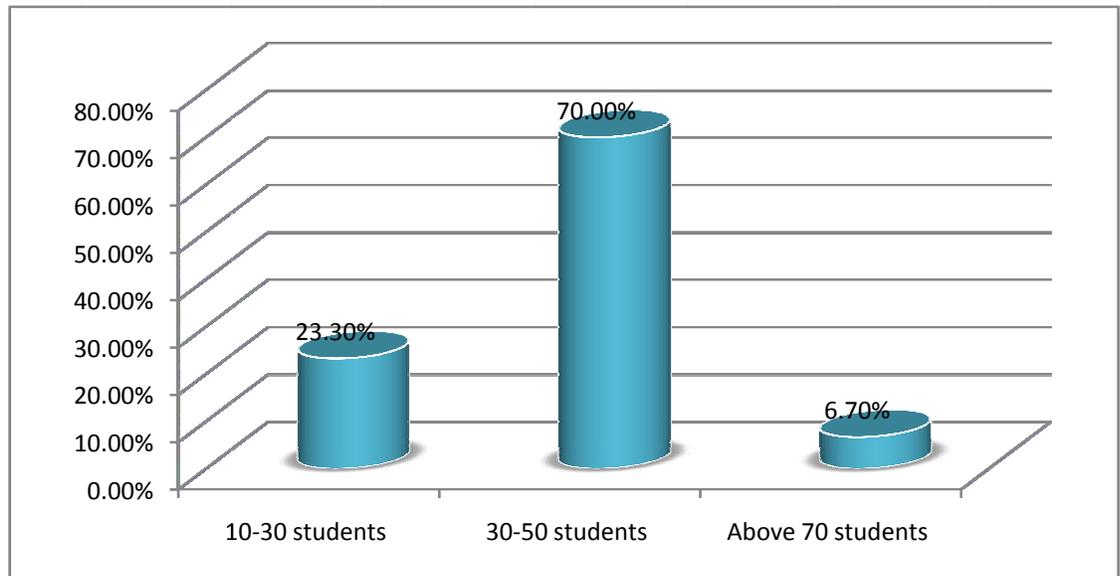


Figure 4.6 shows that majority 21(70.0%) of principals had between 30 and 50 students in their class, 7(23.3%) of principals had between 10 and 30 students while 2(6.7%) of principals had above 70 students. The data shows that most schools had relatively high number of students which requires a similar ratio of teachers for effective learning. The study further sought to investigate from the teachers the effects of learning environment on quality of education. Table shows their rate on learning environment factors.

Table 4.7: Teachers' rating on learning environment factors.

Factor	Extremely satisfying		Satisfying		Extremely dissatisfying		Dissatisfying		Neutral	
	F	%	F	%	F	%	F	%	F	%
Teachers absenteeism	14	6.2	162	72.0	40	17.8	9	4.0		
Teacher administration relationship	25	11.1	90	40.0	19	8.4	91	40.4		
Administration support	27	12.0	29	12.9	10	4.4	136	60.4	23	10.2
Teacher/student learning/teaching relationship	21	9.3	96	42.7	74	32.9	23	10.2	11	4.9

Table 4.7 shows that majority 162(72.0%) of teachers said that teachers absenteeism was satisfying, 91(40.4%) of teachers indicated that teachers administration relationship was dissatisfying. Data further shows that majority 136(60.4%) of teachers indicated that the Administration support was dissatisfying while 96(42.7%) of teachers indicated that the teacher /student learning/teaching relationship was satisfying.

The principals were further asked to indicate the teacher student ratio in the schools. Table 4.8 shows principals response on teacher student ratio in their school.

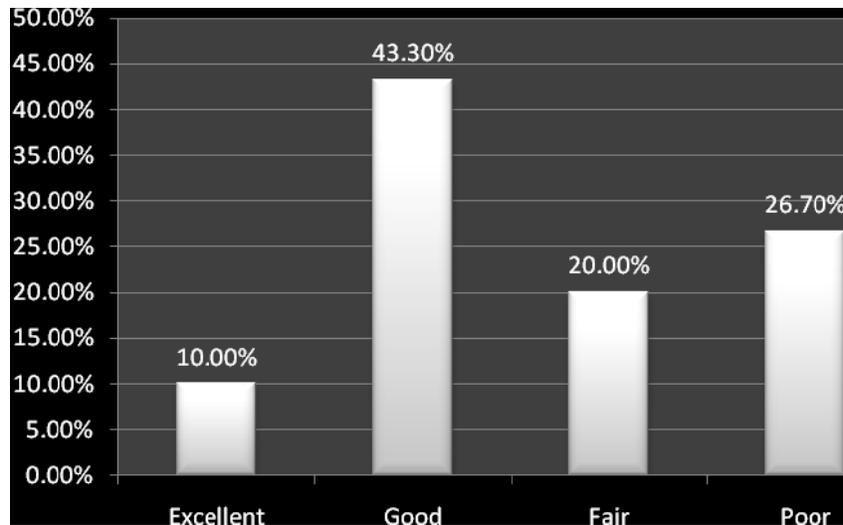
Table 4.8 Principals’ responses on teacher-student ratio in their schools

Ratio	F	%
1:10	5	16.7
1:30	12	40.0
1:50	10	33.3
1:70	3	10.0
Total	30	100.0

Table 4.8 shows that 5(16.7%) of principals had 1:10 teacher student ratio in their school, 12(40.0%) of principals had 1:30, 10(33.3%) of principals had 1:50 while 3(10.0%) of principals had 1:70 teacher student ratio in their school. The data implies that the number of teachers was not adequate in relation to the number of students which affected quality education. Ankomah, Koomson, Bosu and Oduro (2005), observe that how teachers are prepared for teaching is an indicator of education quality. The potential indicators deal with such aspects as academic qualification, pedagogical training, years of service/experience, ability or aptitude

and content knowledge. When the principals' were asked to rate the support by parents on school fees payment, they responded as Figure 4.7.

Figure 4.7: Principals' rating on parents' payment of school fees



Data shows that 3(10.0%) of principals indicated that parents payment of school fees was excellent, 13(43.3%) of principals said it was good, 6(20.0%) of principals said it was fair while 8(26.7%) of principals said it was poor. The data implies that majority of the parents were not able to pay school fees in time. When parents are not able to pay school fees in time, this may make students be sent home hence affecting learning and ultimately quality education.

The study further sought to establish students' rate on the effects of learning environment on quality of education. Table 4.9 shows their rating on learning environment factors.

Table 4.9: Students' rating on learning environment factors.

Factor	Extremely Satisfying		Satisfying		Extremely Dissatisfying		Dissatisfying		Neutral	
	F	%	F	%	F	%	F	%	F	%
	Teacher absenteeism	20	5.8	123	35.7	28	8.1	174	50.4	
Corporal punishment by teachers					144	41.7	91	26.4	110	31.9
Gender issues	36	10.4	137	39.7	57	16.5	79	22.9	36	10.4
Repetition	21	6.1	154	44.3	48	13.9	122	35.4		
Teacher/Student teaching/learning relationship	35	10.1	73	21.2	77	22.3	160	46.4		

Data revealed that majority 174(50.4%) of students indicated that teacher absenteeism was dissatisfying, 144(41.7%) of students indicated that corporal punishment by teachers was extremely dissatisfying, 137(39.7%) of students indicated that gender issues were satisfying. Findings further indicates that 154(44.3%) of students indicated that repetition was satisfying while 160(46.4%) of students indicated that teacher /Student teaching/learning relationship was

dissatisfying. According to Ankomah, Koomson, Bosu and Oduro (2005), actual class size may be larger than measured pupil-teacher ratios because of teacher, absenteeism and specialization. Some researchers argue that measured pupil – teacher ratios are reasonable approximation of actual class sizes, especially, in primary schools

4.5 Effect of instructional resources on quality education

According to Ankomah, Koomson, Bosu and Oduro (2005), resources available to the students in school can influence students' achievement. The study also sought to establish the effects of instructional resources. To establish how instructional resources affect the quality of education in public secondary schools, the principals were asked to indicate the adequacy and availability of the instructional resources in their schools. Table 4.10 shows availability and adequacy of the text books.

Table 4.10: Principals' responses on the availability of textbooks

Response	F	%
Adequate	5	16.7
Inadequate	13	43.3
In poor state	10	33.3
Not available	2	6.7
Total	30	100.0

Table 4.10 shows that 13(43.3%) of the principals indicated that the textbooks were inadequate in their school, 10 (33.3%) of principals said that they were in poor state. Data further shows that 5(16.7%) of principals indicated that they had adequate textbooks. Data shows that majority of the schools did not have adequate text books or the ones available were in poor state. The data implies that inadequate or unusable text books may affect teaching/learning and hence contributing to poor quality education.

Figure 4.8: Principals' responses on the availability of stationery.

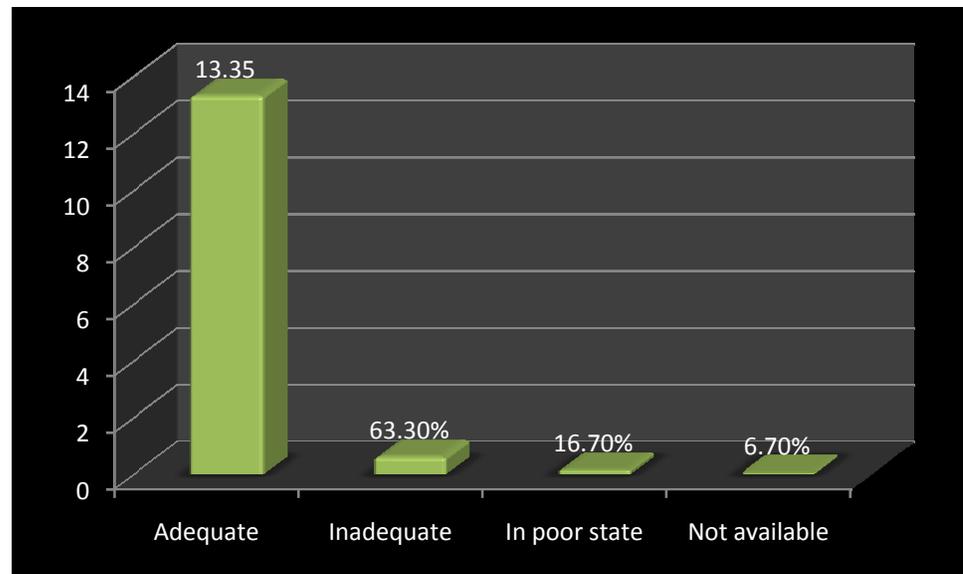


Figure shows that majority 19(63.3%) of principals indicated that stationery in their school were inadequate, 5(16.7%) of principals said that they were in poor state while 4(13.3%) of principals said that they were adequate. The data shows that quality education could be affected by stationery since schools had inadequate stationery.

Table 4.11: Principals' responses on availability of instructional resources in their schools.

Instructional resources	Adequate		Inadequate		In poor state		Not available	
	F	%	F	%	F	%	F	%
Laboratory chemicals and equipment	5	16.7	18	60.0	5	16.7	2	6.7
Television	4	13.3	4	13.3	4	13.3	18	60.0
Computer Stationery	5	16.7	6	20.0	6	20.0	13	43.3
Projectors	5	16.7	4	13.3	5	16.7	16	53.3
CDS and DVDS	5	16.7	7	23.3	3	10.0	15	50.0
Teaching /learning aids	2	6.7	18	60.0	10	33.3		

Findings show that majority 18(60.0%) of principals had inadequate laboratory chemicals and equipment, the same number of principals indicated that televisions were not available in their schools. Data further shows that 13(43.3%) of

principals did not have computer stationery, majority 15(50.0%) of the principals lacked CDS and DVDS. The findings further shows that the teaching / learning aids were inadequate in the schools as indicated by majority 18(60.0%) of the principals. The above findings indicate that schools did not have the required instructional resources, which affected quality education.

According to Ankomah, Koomson, Bosu and Oduro (2005), the content of education is conical in determining learning outcomes. The type, relevance and the volume are important. The materials that support teaching and learning, the type, quality and quantity impact significantly on the quality of education. According to Psacharopoulos and Woodhall (1985) teachers in large classes tend to focus more on rote learning, rather than on problem solving skills

The researcher further examined the teachers' rate on the adequacy and availability of the instructional resources in their schools. Table 4.12 shows teachers response on chalks.

Table 4.12: Teachers' rating on the satisfaction of chalks in their schools

Response	F	%
Extremely satisfying	30	13.3
Satisfying	74	32.9
Extremely dissatisfying	60	26.7
Dissatisfying	37	16.4
Neutral	24	10.7
Total	225	100.0

Findings shows that 74(32.9%) of teachers indicated that chalks were satisfying, 60(26.7%) of teachers said that they were extremely dissatisfying. Data further shows that 37(16.4%) of teachers indicated that chalks were dissatisfying while 30(13.3%) of teachers indicated that they were extremely satisfying. The teachers were further asked to rate their satisfaction on the chalkboards in their schools. The data is presented in figure 4.9.

Figure 4.9: Teachers' rating on the satisfaction of chalkboards in their schools

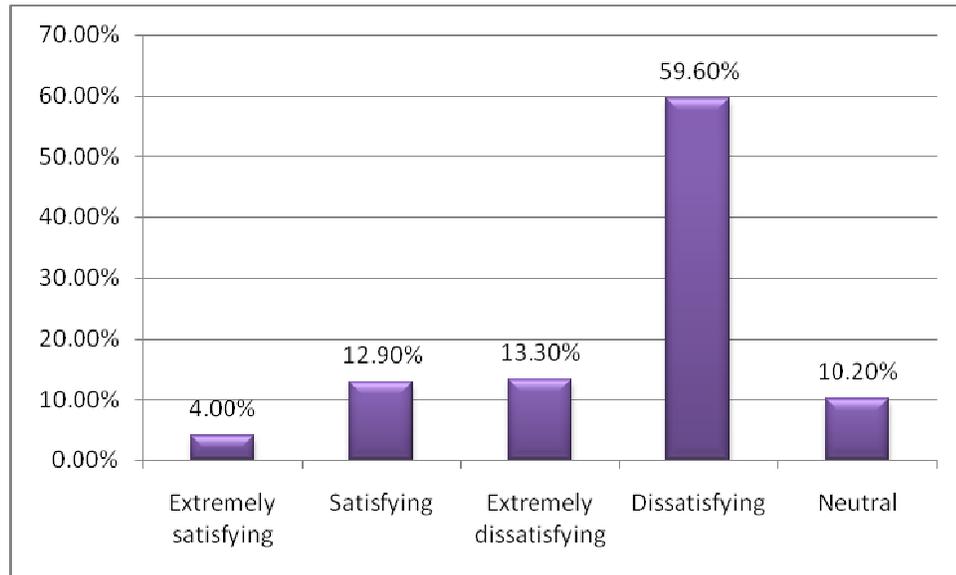


Figure 4.9 shows that majority 134(59.6%) of teachers indicated that chalkboard were dissatisfying, 30(13.3%) of teachers said that they were extremely dissatisfying. Data further shows that 29(12.9%) of teachers were satisfied by the chalkboard in their schools. The data shows that issue of chalkboards was not a serious one hence could not affect quality education since schools had adequate chalkboards.

Table 4.13: Teachers' responses on satisfaction of instructional resources in their schools

Instructional resources physical facilities	Extremely satisfying		Satisfying		Extremely dissatisfying		Dissatisfying	
	F	%	F	%	F	%	F	%
Teacher preparation notebooks	9	4.0	63	28.0	55	24.4	98	43.6
Textbooks	18	8.0	63	28.0	84	37.3	60	26.7
Writing materials	32	14.2	91	40.4	57	25.3	45	20.0

Data in Table 4.13 shows that 98(43.6%) of teachers were dissatisfied with the availability of teacher preparation notebooks, 84(37.3%) of teachers were extremely dissatisfied with textbooks while 91(40.4%) of teachers were satisfied with the writing materials in their school.

When the students were asked to indicate their satisfaction level on the provision of lesson notes/exercises, they responded as in Table 4.14.

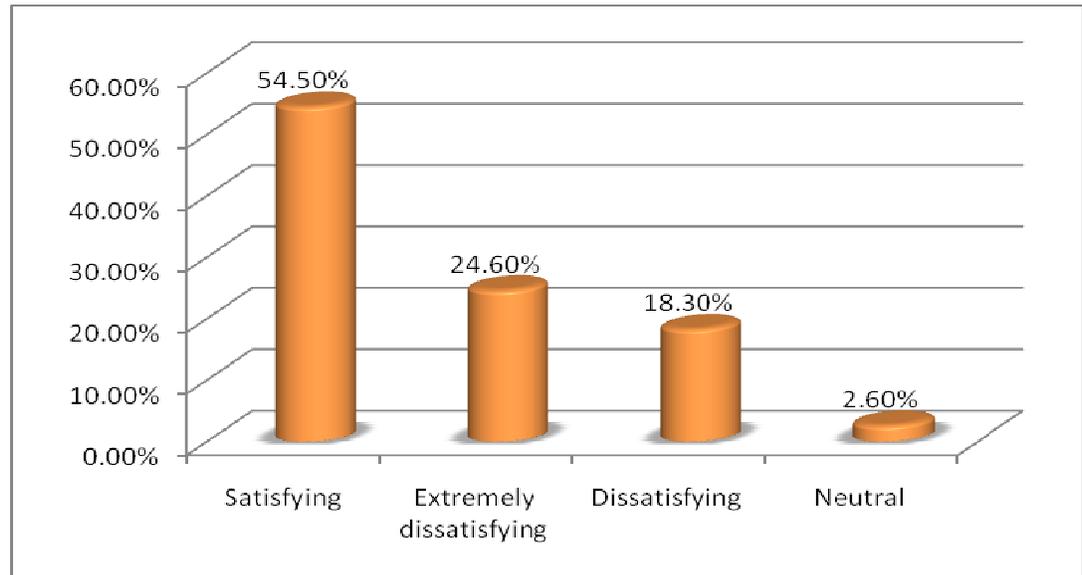
Table 4.14: Students’ responses on satisfaction of lesson notes/exercise provision in their schools.

Satisfaction	F	%
Extremely satisfying	25	7.2
Satisfying	112	32.5
Extremely dissatisfying	87	25.2
Dissatisfying	101	29.3
Neutral	20	5.8
Total	345	100.0

Table 4.14 shows that 112(32.5%) of students indicated that they were satisfied with lesson notes/exercise provision in their schools, 25(7.2%) of students indicated that they were extremely satisfied. Data further indicated that 101(29.3%) of students were dissatisfied while 20(5.8%) of students were neutral with the lesson notes/exercise provision in their schools. The data shows a significant number of students were not satisfied with the status of teaching learning resources in their school which affected quality education.

The students were further asked to indicate their satisfaction with the time that teachers spent in class. Their responses are presented in Figure 4.10.

Figure 4.10: Students' responses on satisfaction of time that teachers spent in class

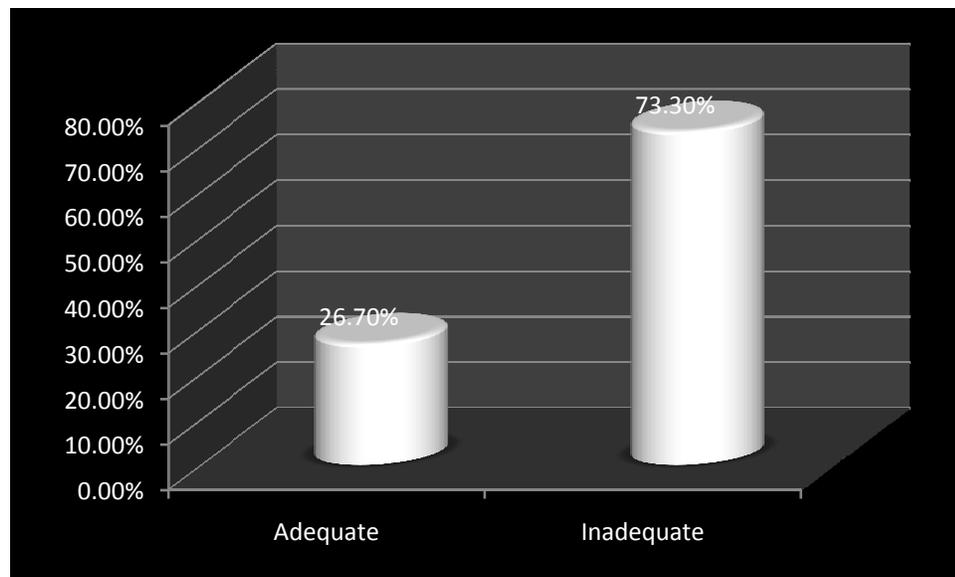


Majority 188(54.5%) of students were satisfied with the time that their teachers spent in class, 85(24.6%) of students were extremely dissatisfied. Data further shows that 63(18.3%) of students were dissatisfied while 9(2.6%) of students were neutral. Data further indicated that majority 214(62.1%) of the students were dissatisfied with textbooks in their schools while majority 191(52.5%) of the students were extremely dissatisfied with the adequacy of the stationery in their schools. The above findings show that students were satisfied with the time teachers spent in classes.

4.6 Effect of physical facilities on quality education

To assess how physical facilities affected quality of education in public secondary schools, the principals were asked to indicate the adequacy and availability of the physical facilities in their schools. For example principals were asked to indicate adequacy and availability of the classroom. Their responses were presented in Figure 4.11.

Figure 4.11: Principals' responses on availability of classrooms



Data revealed that majority 22(73.3%) of principals indicated that the classrooms in the school were inadequate while 8(26.7%) of principals indicated that they were adequate. The data implies that classrooms were not a problem hence could not affect quality education.

Table 4.15: Principals' responses on availability of physical facilities in their schools

Physical facilities	Adequate		Inadequate	
	F	%	F	%
Laboratories	8	26.7	22	73.3
Desks	7	23.3	23	76.7
HOD Offices	11	36.7	19	63.3
Staffroom	11	36.7	19	63.3
Toilets	8	26.7	22	73.3
Dining Halls	10	33.3	20	66.7

Majority 22(73.3%) of principals indicated that laboratories and toilets were inadequate in their schools. Majority 23(76.7%) of the principals said that desks were inadequate. Data further shows that staffrooms were inadequate in the schools as indicated by majority 19(63.3%) of principals. When teachers were asked to indicate their level of satisfaction with the physical facilities in their schools, they responded as follows:

Figure 4.12: Teachers' satisfaction with HODs' offices in their schools

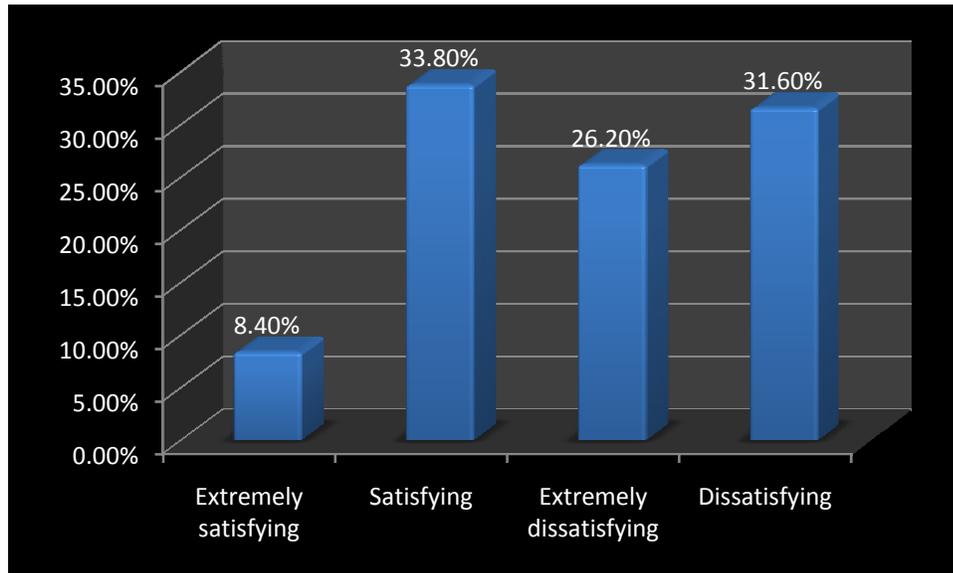


Figure 4.12 shows that 76(33.8%) of teachers were satisfied with HODs offices in their schools, 59(26.2%) of teachers were extremely dissatisfied. 70(31.6%) of teachers were dissatisfied while 19(8.4%) of teachers were extremely satisfied with HODs offices in their schools.

Table 4.16 Teachers' satisfaction with furniture in their schools

Response	F	%
Extremely satisfying	66	29.3
Satisfying	66	29.3
Extremely dissatisfying	33	14.7
Dissatisfying	60	26.7
Total	225	100.0

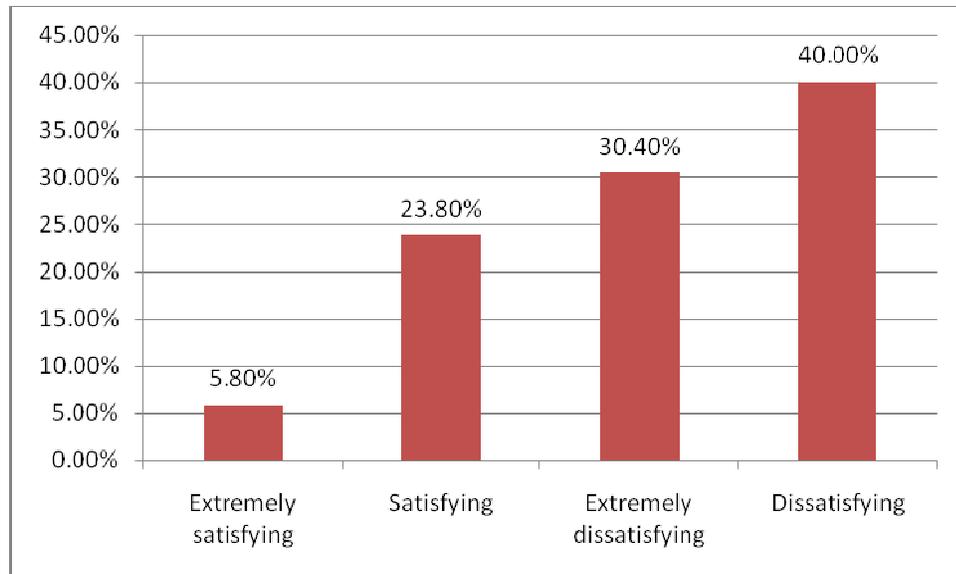
Findings shows that 66(29.3%) of teachers were extremely satisfied with furniture in their schools, the same number of teachers were satisfied. Data further shows that 60(26.7%) of teachers were dissatisfied while 33(14.7%) of teachers were extremely dissatisfied. The data shows that furniture was not an issue in the schools hence could not affect quality education. The students were asked to indicate their levels of satisfaction with toilets in the schools.

Table 4.17: Students' satisfaction with toilets in their schools

Response	F	%
Extremely satisfying	15	4.4
Satisfying	126	36.5
Extremely dissatisfying	74	21.5
Dissatisfying	84	24.3
Neutral	46	13.3
Total	345	100.0

Findings shows that 15(4.3%) of students were extremely satisfied with toilets in the schools, 126(36.5%) of students were satisfied. Data further shows that 74(21.4%) of students were extremely dissatisfied while 84(24.3%) of students were dissatisfied with the toilets. The data shows that students were not satisfied with the toilets in the schools. This therefore suggests that the toilets were not adequate hence affecting quality education.

Figure 4.13 : Students' satisfaction with desks and lockers in their schools



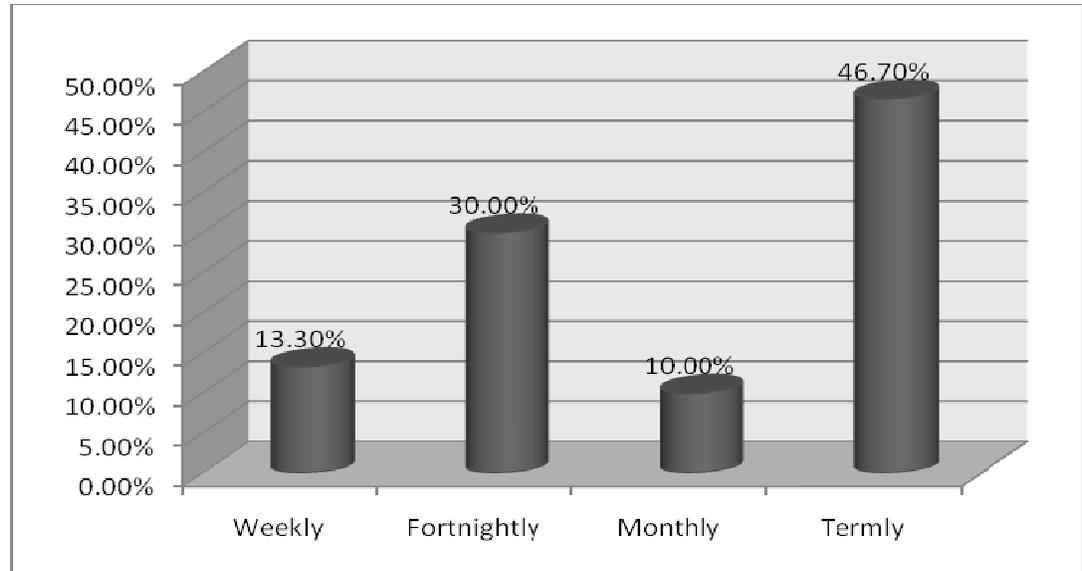
Data shows that 20(5.8%) of students were extremely satisfied with the desks and lockers in the schools, 82(23.8%) of students were satisfied. Findings further shows that 105(30.4%) of students were extremely dissatisfied while 138(40.0%) of students were dissatisfied with desks and lockers in the school. The data further indicates that desks and lockers were not sufficient in the schools hence could most probably affect students performance. According to Ankomah, Koomson, Bosu and Oduro (2005), educational facilities are about school space and equipment including classroom and other building, challenging boards, pupil and teacher furniture (tables and chairs), places of convenience water etc. The standard of construction, the condition of the facilities and the specialized rooms are all important areas to consider. Fuller (1999) revealed that physical learning environments or the places in which formal learning occurs, range from relatively

modern and well-equipped buildings to open-air gathering places. The quality of school facilities seems to have an indirect effect on learning, an effect that is hard to measure. The above findings are in line with Reddy (2006) who found that in physical facilities area problems emerged at times of booming enrollments. During a period of total pupil increases, the impact was felt first at the elementary level. Many communities had found it necessary to expand their facilities but they did not have sufficient time and resources to recover, through normal amortization, to turn their attention to added facilities at the secondary level. With heightening demands on the secondary schools, maintenance factors and the most efficient use of existing facilities was given more importance.

4.7 Effect of use of assessment materials on quality education

Assessment is the process of identifying, gathering and interpreting information about students' learning. The central purpose of assessment is to provide information on student achievement and progress and set the direction for ongoing teaching and learning. The study also sought to establish the effect of use of assessment materials on quality of education. To establish how use of assessment materials affect the quality of education in public secondary schools, the principals were asked to indicate the frequency in which their school administered Continuous Assessment Tests to students in their school. Figure 4.14 shows their responses.

Figure 4.14: Principals' responses on frequency of administering CATs



Data shows that 4(13.3%) of principals administered Continuous Assessment Tests to students in their school weekly, 9(30.0%) of principals administered fortnightly. 3(10.0%) of principals monthly while 14(46.7%) of principals administered termly.

Asked whether their teachers discussed Continuous Assessment Test results with students, majority 19(63.3%) of principals said that the teachers did not discuss.

Table 4.18 shows principals responses on the number of CATs they administered to students in a term.

Table 4.18: Principals’ responses on the number of CATs administered to students in a term

Number	F	%
One	16	53.3
Two	11	36.7
Three	1	3.3
More than three	2	6.7
Total	30	100.0

Data shows that majority 16(53.3%) of the principals administered one CAT to students once in a term, 11(36.7%) of principals administered two CATs, 1(3.3%) of principals, three while 2(6.7%) of principals administer more than three CATs. The data shows that CATs were not administered frequently which could affect quality education. Teachers were asked to indicate their satisfaction with assessment materials in their schools. Their responses were presented in Table 4.19.

Table 4.19: Teachers' satisfaction with assessment materials in their schools

Assessment materials	Satisfying		Dissatisfying	
	F	%	F	%
Revision supplementary materials	36	27.6	163	72.4
Stationery	105	46.6	120	53.7

Table 4.19 shows that majority 163(72.4%) of teachers were dissatisfied with revision supplementary materials while majority 120(53.7%) of teachers were dissatisfied with stationeries in their schools. The data shows that teachers were not satisfied with the assessment materials used in their schools.

The students were asked to indicate their satisfaction with Continuous assessment tests administration in the schools Table 4.20 presents the responses.

Table 4.20: Students' satisfaction with Continuous Assessment Tests administration in their schools

Response	F	%
Extremely satisfying	50	14.5
Satisfying	105	30.4
Extremely dissatisfying	84	24.3
Dissatisfying	59	17.1
Neutral	47	13.6
Total	345	100.0

Data shows that 20(14.5%) of the students were extremely satisfied with Continuous assessment tests administration in the schools, 105(30.4%) of students were satisfied, 84(24.3%) of students were extremely dissatisfied, 59(17.1%) of students were dissatisfied while 47(13.6%) of students were neutral with Continuous assessment tests administration in the schools. Data shows that a significant number of students were not satisfied with the administration of tests in their schools.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusions, recommendations and suggestions for further research.

5.2 Summary of the study

The purpose of this study was to investigate role of school based factors on quality of education in public secondary schools in Nyamira North District, Kenya. Four research questions were formulated to guide the study. The research questions sought to determine how learning environment affects quality of education in public secondary schools in Nyamira North District; establish how instructional resources affect the quality of education in public secondary schools in Nyamira North District; assess how physical facilities affect quality of education in public secondary schools in Nyamira North District and lastly establish how use of assessment materials affect the quality of education in public secondary schools in Nyamira North District. Descriptive survey research design was adopted in this study. The sample for the study was 38 principals, 234 teachers, 357 form three and four students. Data were collected by use of questionnaires and was analysed by use of qualitative and quantitative techniques.

Findings revealed that learning environment influenced quality of education. For example, majority 17(56.7%) of principals reported that they did not have

adequate number of trained teachers. Majority 21(70.0%) of principals indicated that they had large classes which teachers were not able to comfortably handle. Data also revealed that majority 174(50.4%) of students indicated that teacher absenteeism was dissatisfying.

Findings also revealed that instructional resources and physical facilities affected quality education. For example, 13(43.3%) of the principals indicated that the textbooks were inadequate in their schools while 10 (33.3%) of principals said that they were in poor state. Data shows that majority of the schools did not have adequate text books or the ones available were in poor state. The data implies that inadequate or unusable text books may affect teaching/learning and hence contributing to poor quality education. Majority 19(63.3%) of principals indicated that stationery in their schools were inadequate, 5(16.7%) of principals said that they were in poor state while 4(13.3%) of principals said that they were adequate. Majority 18(60.0%) of schools had inadequate laboratory chemicals and equipment. The findings further shows that the teaching / learning aids were inadequate in the schools as indicated by majority 18(60.0%) of the principals. The above findings indicate that schools did not have the required instructional resource which affected quality education. Teachers 98(43.6%) were dissatisfied with the availability of teacher preparation notebooks, 84(37.3%) of teachers were extremely dissatisfied with textbooks. The above findings show that students were satisfied with the time teachers spent in classes.

Findings further revealed that physical facilities influenced quality education. Data showed that majority 22(73.3%) of principals indicated that the classrooms in the school were inadequate. A further majority 22(73.3%) of principals indicated that laboratories and toilets were inadequate in their schools. Majority 23(76.7%) of the principals said that desks were inadequate. Data further shows that staffrooms were inadequate in the schools as indicated by majority 19(63.3%) of principals. The data shows that students were not satisfied with the toilets in the schools.

Findings further revealed that use of assessment materials influence quality education. For example, CATs were not administered frequently which could affect quality education. Majority 163(72.4%) of teachers were dissatisfied with revision supplementary materials while majority 120(53.7%) of teachers were dissatisfied with stationeries in the schools. A significant number of students were not satisfied with the administration of tests in the schools.

5.3 Conclusions

Based on the findings, the study concluded that learning environment influenced quality of education. Schools did not have adequate number of trained teachers. They also had large classes which teachers were not able to comfortably handle. The study also concluded that instructional resources and physical facilities affected quality education. For example, textbooks were inadequate in their

schools, stationery in the schools were inadequate and in poor state. Majority of schools had inadequate laboratory chemicals and equipment. The study also concluded that physical facilities influenced quality education. For instance schools had inadequate classrooms, inadequate laboratories and toilets. The study further concluded that use of assessment materials influence quality education. For example, CATs were not administered frequently which could affect quality education while teachers were dissatisfied with revision supplementary materials.

5.4 Recommendations

Based on the findings of the study, the following were the recommendations:

- i. The school administration should create and enhance conducive school environment which will facilitate effective teaching and learning which will result to improving quality education provision in the schools. This could be done by creating good teacher student relationship and the school administration, students and teachers relationship.
- ii. The school administration and other partners should provide adequate instructional resources which apparently are inadequate in the school which will ensure effective teaching and learning hence enhancing provision of quality education.

- iii. The school administration and the school management (the board of management) should provide adequate physical resources in the schools to ensure provision of quality education. This could be done for example by the sourcing from the Constituency Development Fund.
- iv. Schools should design proper student assessment materials that will enhance quality education. This could be done by having a school wide approach where different stakeholders within the school are involved in students assessment.

5.5 Recommendation for Further Research

Following the findings, the study gave the following suggestion for further research;

1. There should be a study undertaken to investigate other intervening factors outside the school and which have an effect on the quality of education in public secondary schools.
2. A study should be undertaken to establish challenges encountered in achieving and maintaining education quality in public secondary schools.
3. A study should be undertaken to determine role of INSETS and workshops for teachers on education quality in public secondary schools.
4. A study should be undertaken to establish contribution of teacher training and competence on quality education in public secondary schools.

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APPENDIX 1

LETTER OF INTRODUCTION

University of Nairobi
School of education
P. O. Box 30197
Nairobi.

The Principal

_____ Secondary school

Dear Sir/Madam,

REF: PERMISSION TO COLLECT DATA IN YOUR SCHOOL

I am a student at the University of Nairobi currently pursuing a Masters' degree in education. As part of my assessment, I am required to carry out research on "Role of school based factors on quality of education in public secondary schools in Nyamira North District, Kenya." Your school has been selected for the study. The purpose of this letter is to request you to kindly allow me to carry out the study in your school. Your identity will remain confidential. Please try to be as honest as possible in your responses and ensure that you attempt all questions.

Yours faithfully,

Yohana Mwamba

APPENDIX 2

QUESTIONNAIRE FOR PRINCIPAL

Please tick (✓) the space indicated by the bracket [] as is appropriate for complete confidentiality.

Background Information

Gender

Male [] Female []

Academic qualification

Master [] Degree [] Diploma []

School status

Boys boarding [] Girls boarding [] Boys day [] Girls day []

Mixed boarding [] Mixed day [] Mixed day and Boarding []

Performance status

How would you rate your school in terms of K.C.S.E Mean Standard score?

0-2 [] 2-4 [] 4-6 [] above 6 []

A) Information on learning environment

1.) What is the size of your school?

Single stream [] Double stream []

Triple stream [] Four streams []

2.) How many trained teachers are their in your school?

1-10 [] 10-20 [] 20-30 [] above 30 []

3.)What is the size classes in your school?

10-30 [] 30-50 [] 50-70 [] above 70 []

4.) What is the teacher student ratio in your school?

1:10 [] 1:30 [] 1:50 [] 1:70 []

5.) How do you rate the support by parents on school fees payment?

Excellent [] Good [] Fair [] Poor []

B) Information on instructional materials

1.) How do you rate these instructional materials in your school?

Does your school have adequate instructional materials?

Instructional materials	Adequate	Inadequate	In poor state	Not available
Text books				
Stationery				
Laboratory chemicals and equipment				
Television				
Computers stationery				
Projectors				
CDS and DVDS				
Teaching /learning aids				

C) Information on physical facilities

1.) How do you rate these physical facilities in your school?

Physical facility	Adequate	Inadequate
Classroom		
Laboratories		
Desks		
HOD Offices		
Staffroom		
Toilets		
Dining Halls		

D) Information on assessment materials

1.) How often are Continuous Assessment Tests administered to students in your school?

Weekly [] Fortnightly [] Monthly [] Termly []

2.) Do teachers discuss Continuous Assessment Test results with students?

Yes [] No []

3.) How many tests do you administer to students in a term?

One [] Two [] Three [] More than three []

APPENDIX 3

QUESTIONNAIRE FOR TEACHERS

Please fill in the blank spaces or tick (✓) the space indicated by the bracket [] as is appropriate for complete confidentiality.

Background Information

Gender

Male [] Female []

Academic Qualifications

Masters [] Degree [] Diploma [] Untrained []

How do you rate performance in your subject in terms of mean standard score?

0 – 2 [] 2 – 4 [] 4 – 6 [] Above 6 []

How do you rate the following factors in your school?

Rating scale/objectives	Extremely satisfying	Satisfying	Extremely dissatisfying	Dissatisfying	Neutral
Learning environment					
Teachers absenteeism					
Teacher administration relationship					
Administration support					

Teacher/student learning/teaching relationship					
Instructional materials					
Chalks					
Chalk boards Teacher preparation notebooks Textbooks					
Writing materials					
Physical facilities					
HODs offices					
Furniture					
Assessment materials					
Revision supplementary materials					
Stationery					

APPENDIX 4

QUESTIONNAIRE FOR STUDENTS

Please tick (✓) the space indicated by the bracket [] as is appropriate for complete confidentiality.

Background information

Gender Male [] Female []
 Form Three [] Four []

How do you rate the following factors in your school?

Rating scale/objectives	Extremely satisfying	Satisfying	Extremely dissatisfying	Dissatisfying	Neutral
Learning environment					
Teacher absenteeism					
Corporal punishment by teachers					
Gender issues					
Repetition					
Teacher/Student teaching/learning relationship					
Instructional facilities					
Lesson notes/exercise provision					
Time teachers spend in class					

Textbooks					
Stationery					
Physical facilities					
Toilets					
Desks and lockers					
Assessment materials					
Continuous assessment tests administration					

APPENDIX 5
RESEARCH PERMIT

<p style="text-align: center;">PAGE 2</p> <p>THIS IS TO CERTIFY THAT: Prof./Dr./Mrs./Miss/Institution Yohana Mwamba of (Address) University of Nairobi P.O.Box 92-0902, Kikuyu. has been permitted to conduct research in</p> <p style="text-align: center;">Location Nyamira North District Nyanza Province</p> <p>on the topic: Role of school based factors on quality of education in public secondary schools in Nyamira North District, Kenya.</p> <p>for a period ending: 31st July, 2013.</p>	<p style="text-align: center;">PAGE 3</p> <p>Research Permit No. NCST/RCD/14/013/930 Date of issue 3rd June, 2013 Fee received KSH. 1,000</p> <div style="text-align: center;"></div> <p style="text-align: center;"><i>Yohana Mwamba</i> Applicant's Signature for Secretary National Council for Science & Technology</p>
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APPENDIX 6

LETTER OF AUTHORIZATION

REPUBLIC OF KENYA



NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telephone: 254-020-2213471, 2241349, 254-020-2673550
Mobile: 0713 788 787 , 0735 404 245
Fax: 254-020-2213215
When replying please quote
secretary@ncst.go.ke

P.O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref:

NCST/RCD/14/013/930

Date:

3rd June, 2013

Yohana Mwamba
University of Nairobi
P.O.Box 92-0902
Kikuyu.

RE: RESEARCH AUTHORIZATION

Following your application dated **28th May, 2013** for authority to carry out research on "**Role of school based factors on quality of education in public secondary schools in Nyamira North District, Kenya,**" I am pleased to inform you that you have been authorized to undertake research in **Nyamira North District** for a period ending **31st July, 2013**.

You are advised to report to **the District Commissioner and the District Education Officer, Nyamira North District** before embarking on the research project.

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

DR. M. K. RUGUTT, PhD, HSC.
DEPUTY COUNCIL SECRETARY

Copy to:

The District Commissioner
The District Education Officer
Nyamira North District.

"The National Council for Science and Technology is Committed to the Promotion of Science and Technology for National Development".