RELATIONSHIP BETWEEN EDUCATIONAL RESOURCES AND PUPILS' ACADEMIC PERFORMANCE IN PUBLIC PRIMARY SCHOOLS IN KISUMU COUNTY, KENYA

BY

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SCHOOL OF EDUCATION

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DECLARATION

Declaration by Candidate:

This thesis is my original work and has not been submitted for a degree or any other award in any other university.

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DEDICATION

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ABSTRACT

Public primary schools in Kisumu County have been posting low academic performance, for example in 2019 they had an average mean of 259.16 compared to schools in the neighbouring counties of Vihiga (265.38), Nandi (265.59) and Siaya (265.13) Counties. Although academic performance as measured through Kenya Certificate of Primary Education (KCPE) may be influenced by various factors such as pupils characteristics, parental contribution and school leadership and management, eveidence shows that educational resources influence pupils academic performance and hence quality of education. The government has therefore provided these resources in public primary schools, yet Kisumu County has continued to register low academic performance over the past few years. The purpose of this study was to examine the relationship between the educational resources and pupils' academic performance in K.C.S.E in Kisumu County. The objectives of this study was to: establish the relationship between financial resources and pupils' academic performance, establish the relationship between human resources and pupils' academic performance, determine the relationship between physical resources and pupils' academic performance and determine the relationship between instructional resources and pupils' academic performance in Kisumu County. The study was guided by the Education Production Function Theory (Deway, Husted and Kenny, 1998).This study used descriptive and correlation research designs. The target population for the study comprised 1Quality Assurance and Standards Officer (QASO), 615 head teachers, 615 senior teachers and 23,464 standard 8 pupils from 615 public primary schools in Kisumu County. Saturated sampling technique was used to select 1 QASO, therefafter, 123 headteachers, 123 senior teachers and 2,413 Std 8 pupils were selected using stratified random sampling technique. Instruments used during data collection were questionnaires, interview schedule, Focus Group Discussion and document analysis guide. Reliability of the instrument were calculated using Cronbach reliability test, which recorded a reliability coefficient of 0.80 for head teachers, 0.78 for senior teachers and 0.698 for class eight pupils. Validity of the instrument was ascertained through expert judgment by the supervisors in the department of education. Quantitative data was analyzed using descriptive statistics in form of percentages, frequency counts and means, while hypotheses were tested using Pearson moment correlation and linear regression (inferential statistics). Qualitative data was organized in categories and reported in emergent themes and sub themes. The study found a strong positive relationship between financial resources, human resources, education physical resources and instructional resources and pupils' academic performance in Kisumu County, with all relationships statistically significant at ($p < 0.05$). It was recommended that the government to allocate more funds to enable schools put up more facilities, public primary to be equipped with adequate recent instructional resources and recruitment and posting of more teachers. Policy makers and Directorate of Quality Assurance and Standards (DQASO) in the Ministry of Education will use the findings of this study to harmonize public primary education service standard guidelines to quality standards that should be maintained and improved by the head teachers in all primary schools. Educational managers at the county and school level will use the findings of this study to initiate programs aimed at addressing the resource challenges facing public primary schools.

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ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immune Defficieny Syndrome
CQASO	County Quality Assurance & Standards Officer
EFA	Education For All
EU	European Union
FDSE	Free Day Secondary Education
FPE	Free Primary Education
GOK	Government of Kenya
HIV	Human immunodeficiency virus
HRM	Human Resource Management
IGA	Income Generating Activity
IQ	Intelligent Quotient
KCPE	Kenya Certificate of Primary Education
KCSE	Kenya Certificate of Secondary Education
KNEC	Kenya National Examinantion Council
MOE	Ministry of Education
MOEST	Ministry of Education Science & Technology
NASMLA	National Assessment System For Monitoring Learner Acheivement
NCERT	National Council of Educational Research and Training
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment
PTA	Parents Teachers Association
QA	Quality Assurance
QASO	Quality Assurance and Standards Officer
SHRMAPQ	Staff Human Resource Management and Academic Performance of Questionnaire
SMC	School Management Committee
TLR	Teaching and Learning Resources
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations Children's Fund
USA	United States of America

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Education is a key pillar of economic, political and social development. Provision of quality education is not only a Kenyan concern but a global one. Education is considered to be the stimulator of economic growth, more wealth and income distribution, greater equality of opportunity, availability of skilled human power, a decline in population growth, long life, better health outcomes, low crime cases, national unity and political stability. Education is the basis upon which any development in a nation is pegged. Good and quality education is achieved when all factors contributing to its success are adhered to. These factors can be grouped as physical resources, financial resources, human resources and instructional resources (Nyakundi, 2012).

It is against this backdrop that education reform and development have been long standing objectives of the Government of Kenya (GoK) since gaining its independence in 1963. Although the causal relationship between schooling and development in Kenya is less extensive compared to more industrialized nations, there is sufficient evidence to conclude that provision of quality education leads to both economic and social development. It is in this regard, that the Kenyan Government has continued to invest heavily in formal education

According to the analysis of Ferreira and Gignoux (2010), family and school conditions account for at least 26% of mathematics scores and 27% of science scores of learners in Turkey. In Demir's (2009) study, variables about school only accounts for 4.3% of variance. There are some studies which indicate that the effect of educational resources

on learner achievement depends on the development level of a country, as well. To account for academic achievement of learners, factors related to school is more effective in developing countries, and social background of learners is more effective in developed countries (Fuller & Clarke, 1994; Heyneman & Loxley, 1983).

To achieve Universal Primary Education, countries in Europe have invested heavily in financing education. Member countries of European Union spend over 11percent of total public expenditure on financing education (EU, 2009). According to OECD (2010), central government financed over 70 percent of the expenditure in primary and secondary education in Austria, Ireland, Italy, Luxemburg, Netherlands, Slovak Republic and Slovenia. On the other hand, 70 percent of the expenditure on education of such countries like Belgium, Czech Republic, Germany, Ireland, Norway, Spain, Switzerland and United Kingdom, is drawn mainly from regional or local governments. In Britain, for example, education up to secondary school level is fully financed by the government and parents are only required to ensure that children attend school (Young People Learning Agency, 2012). The department of education in Canada works with school boards, parents, teachers, and other partners to ensure that policies governing school fees are implemented so as to ensure that a child is not denied access to education because of an honest inability of the parents to pay the mandatory school fees (Young People Learning Agency 2012).

Many African countries pay attention on education from primary, secondary and tertiary levels. However, the main challenge is poor academic performance of students (Miller & Yodar, 2002). In Botswana, for example, the government is offering free basic education to all the children attending school. In addition, the government supports education from primary to secondary level. To achieve this, the Ministry of Education receives a hefty

share of the country's budget (Matambo, 2013). Despite all the efforts by the government on education, the pupils' academic performance has been declining lately from 2010 (Luke & Mavis, 2014).

In South Africa, schools are compelled to inform parents of the school fee exemption for poor learners. In 2006, the country undertook to develop a framework which allows disadvantaged schools to receive subsidies if they enrolled non-fee paying learners as the number of exemptions granted to poor learners at certain schools was becoming a burden to school finances (UNESCO, 2011). In Zambia and Malawi, studies show that close to 70% of secondary school students are entitled to bursary schemes as a form of government education funding policies, which are supposed to cover 75% tuition fees for most beneficiaries and up to 100% for vulnerable groups such as double orphans. Bursary schemes are also favoured to improve retention of girls in the schools (Sutherland-Addy, 2008).

According to UNICEF (2001) investment in education is widely recognized as an important element in a given country's development strategy. A study by Bisika (2012) in Malawi notes that a number of countries in Africa introduced Free Primary Education with recognition of the Human Rights. The importance of primary education cannot be assumed. It is considered to be more important than higher education in terms of impact on poverty alleviation, social progress and economic development. Therefore, most African countries put a lot of emphasis on primary education (Bisika, 2012). Bisika's study is, however, silent on how these African countries monitor the progress of pupils academic performance upto the end of their primary education that the current study looked at. Besides, it has not brought out how the introduction of free primary education

among African countries influenced the availability of educational resources, which in turn influence academic performance of the pupils. The present study focused on the relationship between educational resources under the existing learning environment brought abought by FPE and academic performance of the pupil to fill this gap.

In Tanzania, the government has initiated several policy structural reforms to ensure quality education (United Republic of Tanzania, 2001). Notable among these are the Education Sector Development Programmes, institutional vision to be focused on Vision 2025 aspiration and the National Science and Technology Policy (URT, 2001). Despite these efforts, low academic performance in secondary schools has been recorded. United Republic of Tanzania (2012) reports that academic performance of students has been deteriorating. For instance, pass rate for Divisions I to III was as follows; 36.6% in 2007, 31% in 2008, 17.91% in 2009, 11.5% in 2010 and 10.05% in 2011(URT, 2012). In a study done in Bangladesh by Sloth – Nielson and Benyam (2007) on free and compulsory primary education in Bangladesh, the study found out that under the school facilities grants, the government had devoted a lot of resources to procure textbooks, construct classrooms and teachers' houses and purchase furniture for pupils. The increase in educational inputs explained the high enrolment and quality of education in Bangladesh but failed to look at how the increase in educational inputs related to pupils' academic performance and this was the knowledge gap that the current study filled. Besides, it has not brought out specifically the nature and level of educational resources influencing the pupils' academic performance. The present study focused on various level of educational resources and also on the the relationship between these educational resources and academic performance of the pupil to fill this gap.

Adeogun and Osifila (2008) found that there are positive relationships between academic achievement of learners and physical, financial and material resources. However, human resources are found not to be significantly related to learners' academic performance. In PISA (Ministry of National Education, 2003) report, it is shown that the lack of physical resources has a negative effect on learners, and it hinders learning of pupils. In developing countries, the relationship between learners achievement, and pupil-teacher ratio, education level of teachers and school facilities is more apparent than in developed countries. Furthermore, developing countries trail developed countries in terms of educational resources such as pupil-teacher ratio, teachers' level of education and school facilities. As a consequence, developing countries trail developed countries in terms of academic achievement on an international scale (Glewwe & Kremer, 2006). Considering these results, Wößmann (2003) suggests that educational resources have a diminishing effect on academic achievement. According to the study of Hanushek (1986, 1997) on the relationship between pupil-teacher ratio, education level of teachers and school facilities, and pupils achievement, there is a poor relationship between educational resources and pupils achievement.

Governments world-wide are turning to school leaders to improve educational quality and are responding to greater demand for accountability from the public for the education system where children are learning (World Bank, 2009). In 2001, the United Nations Secretary General came up with critically important initiatives "Education First", which sought to refocus the world attention on the unfinished agenda of quality education for all. Ayodo (2010) observes that the quest for provision of quality education continues to

be a matter of leading concern to both consumers and providers of the education service in Kenya and the developing countries.

A survey report conducted by Kenya National Examination Council (KNEC, 2017) in Kenya titled National Assessment System for Monitoring Learner Achievement (NASMLA) on what causes poor performance in Kenya Certificate of Primary Education and Kenya Certificate of Secondary Education identified factors that cause poor results as lack of regular meals, textbook sharing, and school entry age, lack of facilities, absenteeism by teachers, irregular assessment and professional qualifications of teachers among others. Due to scarcity of resources and inequality in the allocation of educational resources because of corruption and remote location of certain institutions, one can find one school having more than enough resources while others experience deficiencies (Republic of Kenya Economic Survey, 2017). To address this, the government has provided each learner in any secondary school in Kenya with an equal grant in form of Free Day Secondary Education of Kshs 12,870 per year (The Kenya Gazette of 10th March 2015). This has been stepped up to Kshs 22,244 leaving day secondary education free with parents not required to pay fee.

Gogo (2002) found out that performance in the then Rachuonyo District in the national examinations was poor due to inadequacy of infrastructure, learning equipment and facilities and that schools that had low incomes performed relatively poorly compared to schools with high incomes. His study was purely based on finding out if learning equipment and infrastructure would lead to poor performance in the national examination. However, the current study looked at all educational resources that include financial

resources, physical resources, human resources and instructional resources and how they are related to pupils' academic performance to fill this gap.

According to the Report of Status of Education in Kisumu County (2014), FPE is perceived not in its entirely as free as it sounds. There are levies and charges that are endeared to parents during the admission. These charges, however small they may appear, have in particular demoralized extremely poor parents / guardians from admitting their children to class one. The right of the child to basic education has as a result been repeatedly violated in these circumstances. This study sought to identify these charges, their availability, adequacy and how these charges influence the educational resources, which in turn influence the relationship with pupils academic performance.

To enhance access, Free Primary Education was reintroduced in Kenya in 2003 as a government commitment to achieve universal primary education. This is in line with international commitments such as Education For All (EFA) and also part of National Economic Strategy set out by Kenyan Government in the recent reforms (Republic of Kenya, 2005). FPE fund comprises of an allocation equivalent of Ksh.1,356 per child per annum with the amount disbursed based on the number of pupils enrolled in schools within the area. Analysis of census report of 2009 show that the number of children out of school in formal education system was 6.7 million. Specifically they are about 2.1million in pre – primary (3 – 5years), 1.9 million (6 – 13years) and 2.7 million (14 – 17years). In a study conducted by Motuka and Orodho (2014) on financing of public primary schools and the provision of educational facilities to enhance pupils' performance in primary schools in Rigoma Division, Nyamira County, the study adopted an ex-post facto research design predicated on the premise that the variables of the study had already occurred

before the study was undertaken. The major findings of this study were that government funding of schools was grossly inadequate. Parents through PTA highly subsidized the funding of schools in the study locale by conducting occasional fundraisings and soliciting funds from philanthropic organizations, albeit inadequate. However, this study brought out the financial challenges facing the head teachers in their management, but did not address how the inadequacy or adequacy of the financial resources relate to pupils' academic performance in these learning institutions. In this study, the researcher established clear relationship between pupils' academic performance and financial resources availablility and adequacy in public primary schools.

Adwar (2018) noted that levels of adequacy and utilization of financial resources positively influences secondary school mean academic performance in KCSE. Level of fee payment and Income Generating Activities (IGAs) had a correlation of 0.793 implying that the higher the fee paid, the higher the performance. In regard to utilization, a correlation coefficient of 0.818 was established. However, the study also noted that there were schools that had fewer financial resources but performed better than some schools that had higher resources.

Ndege (2019) found out that many secondary schools in Migori County were involved in IGAs such as planting maize, bee keeping, dairy and poultry farming, brick laying and hiring school vehicles. This is because Free Day Secondary Education funds and fee paid by parents were insufficient in sustaining quality education. The relationship between IGAs funds and quality of secondary education had a correlation coefficient of 0.727 and that 50.7% charge in quality secondary education was as a result of the utilization of IGA funds.

Studies by Adwar (2018) and Ndege (2019) established the relationship between adequacy and utilization of financial resources and IGAs on performance in secondary schools. Studies on FPE have not paid attention to possible relationship between financial resources and pupils performance. Armstrong (2006) cited human resource factors may also influence pupils' performance in public primary schools. For instance, Human Resource Management (HRM) practices such as recruitment and selection, training, promotion, career development, feedback on performance, motivation and compensation can potentially affect performance along three parallel channels. The first one is a control based channel, which refers to all practices taken by the organization in order to sustain productivity and efficiency in the service process. The second way in which HRM might affect quality is through a knowledge based channel, in which HRM practices are adjusted to the service delivery process. By shaping practices in a service oriented manner employees will be more aware of the service delivery process and quality (Tzafrir & Gur 2007). The third way is via a motivational based channel, in which the organisation promotes practices that are focused on employees' wellbeing.

Tzafrir and Gur (2007) have shown that adopting Human Resource Management practices that employees perceive as positive and considerate, such as employment security or a compensation system that acknowledges employee efforts and contributions, results in more service committed employees. The current research is focused on the knowledge and motivational based channels because such practices are directed toward employees' wellbeing as well as performance. Employees in organizations that are characterized by high levels of service, view the organizational leadership as putting a

strong emphasis on meeting customer needs and delivering excellence in service through clearly stated goals and objectives.

Human resource in school includes teachers, support staff and pupils. Human resource as a factor of production is affected by adequacy and quality as reflected by level of training and level of motivation (Juma, 2011). According to behavioural scientists, effective worker performance requires motivational ability and reward system that encourages quality work (Ivancerich et al, 1994). Performance of teachers as reflected by level of training and teaching experience will determine the quality of grades attained in an examination (Heinemann,1981). A trained teacher will have necessary pedagogical skills which will promote learners' understanding and motivates the learner to learn, thereby promoting academic performance.

Fettler (2011), found a strong positive relationship between students' score and teachers experience level after controlling for students' characteristics. A study of high and low achieving schools with demographically similar student populations in New York city found that differences in teacher qualification accounted for approximately 90% of the total variation in average school level student achievement in reading and mathematics at all grade levels tested. It was not clear to what extent the quality of teachers in terms of academic achievement and experience influenced the overall academic performance of pupils in primary schools that the current study looked at.

Adwar (2018) found a high positive correlation of 0.86 between adequacy of teachers and school mean performance in KCSE. In terms of utilization of teachers, there was a weak negative relationship of r = -0.151 with performance. This implies that as teachers'

workload increases, performance of students decrease. In her study on how teacher qualification, experience and attitude influence pupils' academic performance in Kiswahili, Mudolo (2019) established that these variables accounted for 7.6%, 9.7% and 29.8% repectively in the variation of pupils' performance in Kiswahili. In addition, looking at teacher characteristics and its influence on quality of secondary education, Ndege (2019) noted that the relationship between teacher characteristics and quality secondary education had a correlation coefficient of 0.865. This is a high and positive influence. The charecteristics in this study were gender, qualifications and terms of employment of the teachers.

Feedback is a basic requirement for enhancing employee performance. From the knowledge aspect, employees need to know whether they are performing their job satisfactorily, and if not, how they might improve their job activities. Providing employees with structured and accurate information about their performance together with suggestions for improvement is an acceptable strategy that is likely to help them to focus on the evaluation of problematic areas, and hence, lead to better levels of performance (Kaltasso, 2014). This study therefore endeavoured to determine the relationship between pupil/teacher ratio, teacher qualification and teacher motivation on pupils' academic performance in public primary schools.

Physical resources refer to the school plant, that is, the school buildings, classrooms, library, laboratories, toilet facilities, offices and other materials and infrastructure that would likely motivate pupils towards learning. Physical resources are important for effective learning and academic performance of pupils. Nandamuri (2012) identified facilities as the main factor contributing to academic achievement in the school system.

He further claimed that the quality, appropriateness and adequacy of these items contribute to performance in the school system.

Physical materials in terms of adequacy and quality have been noted to have a great impact on performance of learners in the examination (Rodgers, Suryadama, Sunyahadi and Sumanto, 2005). A school with inadequate classrooms will be forced to accommodate more learners than recommended. This will exert a lot of pressure on available resources such as teachers who may compromise their methodology as part of adaptive mechanism (Obondo, 2012) citing Nafukho (1991). The lack of basic facilities like laboratories has compromised the teaching of science subjects. Topics that are meant to be taught practically are taught theoretically as part of adaptive mechanism by teachers due to inadequate resources to enable effective teaching of the same. This ends up affecting learners' performance negatively reducing their competitiveness for opportunities whose placement is pegged on performance in such subjects (Mayama 2012; Lumuli, 2009).

Recent studies have emphasized the importance of the availability of physical facilities. Ajayi and Ayodele (2001) emphasized that the availability of these resources are quite important to achieving effectiveness in instructional delivery and supervision in the school system. They further stated that non-availability of basic facilities such as classrooms, office accommodation, workshops, sporting facilities, laboratories, library et cetera which is experienced in primary schools is a perfect reflection of what happens in the university system. Ogunniyi (1982) claimed that laboratories play a key role in the teaching and learning of science that is why Adeyemi (2009) noted that these facilities have to be adequate and should be in good condition for schools to function properly.

In support of the above Chavundika (2006), said that school buildings, with good aesthetic conditions, laboratory and playground often contribute to improved performance in the school system. He also argued that the availability of school building and other plant facilities are very important as they could enhance effective teaching and learning. Altbach (1998) was of the view that adequate facilities are essential for academic work. Equally, Chandan (1999) claimed that for effective teaching to take place in any educational setting there must be provision of adequate and quality physical facilities. Adewunmi (2000), corroborated Chandan's views that the availability of adequate number of physical facilities had significant influence on pupils' academic performance. He further emphasized that adequate number of physical facilities should be supplied to public primary schools.

Ademilua (2000), in his study observed that inadequate provision of school resources has been a major factor contributing to poor learners' academic performance in Ekiti State, Nigeria. He equally remarked that without adequate physical resources/facilities there would be a continuous decline in students' academic performance. In support of this view, Ajayi (2000), emphasized on the need for the availability of physical materials in the school system in order to boost teachers' job performance. This would, invariably, enhance academic performance of pupils. A related study, carried out by Ademilua (2000) revealed that adequate provision and maintenance of school plant is a remedy for any academic encumbrance. This means that running the school system without adequate provision and maintenance of school plant can be very cumbersome for teachers.

Wambua (2011) while carrying out research on impact of school infrastructure on access and provision of quality secondary education in the former Kisumu Municipality, concluded that access is pegged on number of available space in secondary schools and that this is the guiding principle of form one selection. Due to the limited number of schools, almost half of the pupils completing primary schools lacked opportunity to enrol in secondary schools. She concluded that the increased enrolment was not in tandem with available infrastructure and this may have negative impact on students performance. Ndege (2019) noted that physical facilities accounted for 34.9% of the variability in quality secondary education. However, the studies by Wambua (2011) and Ndege (2019) did not bring out clearly how physical facilities relate to pupils academic performance in public primary schools. The present study therefore established the undelying relationship between the availability of classrooms to the ratio of pupils, playing fields, toilets and libraries as physical resources. The study also looked at the status and quality of physical facilities in public primary schools and their relationship to pupils' academic performance, a gap which the other studies did not look at.

Wasola (2010) writes that a teaching and learning resource is any support material available for use by the teacher in the class and a reading material for children. Obanya (2009) contends that resources directly utilized in teaching and learning are clearly classrooms and curriculum support resources (i.e. books, stationery materials and equipment, wall pictures, blackboards, audio-visual aids, globes, maps, atlases, concrete objects and classroom environment). UNESCO (2005) and Kabaana (1999) recommend visual and audiovisual materials namely wall pictures, charts, diagrams, films, tape-recorders, maps, blackboards, projectors, motion pictures, television, radios and video.

National Council of Educational Research and Training (NCERT) 2005 argues that teaching and learning resource appear in three types. The first type of instructional materials includes such objects and phenomena as minerals, rocks, raw materials; semi-finished and finished manufactured articles, and plant and animal specimens. Included among these materials are reagents and apparatus for producing chemical and other reactions and for demonstrating and studying such reactions during laboratory sessions. Others included in the first group are materials and equipment for students' expeditions and other travel, as well as supplies, instruments, and equipment for production training and for courses in drafting and the representational arts. Among such supplies, instruments, and equipment are wood, metal, plastic, and glass objects, measuring and monitoring instruments and equipment, equipment for the assembling and finishing of various products, and machines.

The second type of educational materials, that are representations of actual objects and phenomena according to NCERT (2005) includes three-dimensional materials (castings, globes, and experimental models), two-dimensional materials (charts, pictures, photographs, maps, diagrams, and drawings), and audio-visual materials (motion pictures, film clips, filmstrips, slide sequences, transparencies, records and tape recordings, and radio and television broadcasts). Audio-visual materials, including the resources of films, radio, and television, help acquaint students with the achievements of modern science, technology, industry, and culture and with phenomena that are inaccessible to direct observation. Audio-visual materials also acquaint students with early periods of history and with distant places in the world and in space. Such materials elucidate natural and social phenomena and enable students to study the inner world of

matter and the internal motion of waves, elementary particles, atoms, molecules, and living cells.

The third type of instructional materials are written descriptions that includes scientific, scholarly, reference, and methodological teaching aids, as well as textbooks, books of problems and exercises, books for recording scientific observations, laboratory manuals, manuals for production training, and programmed textbooks (NCERT, 2005). Another type of instructional materials is technological instructional media. Among these are equipment for the transmission and assimilation of information recorded on film or on phonograph recordings: film projectors, tape recorders, phonographs, and television sets. Monitoring devices include punched cards and various types of automatic apparatus. Teaching machines include language-laboratory machines, closed-circuit television systems, and computers (NCERT, 2005).

With regard to the effects of resource availability on classroom management and content delivery, Kabaana (1999) stated that teaching and learning resource availability helps teachers teach effectively in convenient and comfortable surroundings. The lack of physical resources inevitably hampers the teaching; depress the spirit of the children and the enthusiasm of the teachers. In a similar vein, Eicher et. al. (1982) counsels that in order to improve the effectiveness of their teaching, teachers use techniques and tools like the simple tool as the chalkboard and technology techniques and tools as experimentation in laboratories, drama classes in the school theatre, radio, television, video and audio cassettes and computers to supplement what they can do with their local resources. The need for the availability of teaching and learning resources for teacher effective classroom management and content delivery is stressed by Eicher et.al. (1982) as they

compare education to a motor-car industry. They say that like in motor-car industry teachers use techniques and tools to achieve their goals. These are like the simple tool as the blackboard and technology techniques and tools as experimentation in laboratories, drama classes in the school theatre, radio, television, video and audio cassettes and computers.

Instructional resources play a significant role in the teaching and learning process particularly with pupils who have difficulties. Characteristic of them is the working memory deficit and may be mediated by factors such as intelligence quotient (IQ) or processing speed (Hulme & Snowling, 2009). The Executive Director (Nate, 2005) Tanzania in Mathematics Advancement Centre (TMC) asserts that many schools do not have visual aids and other equipment necessary in teaching maths calculation. He also adds that some schools' ratio of sharing is one textbook to six students (1:6). Students may not understand complex mathematical concepts like such as multiplication, division and some abstract ones that require implication. Similarly, they do not remember to build on the existing knowledge to help them master what they do not know yet (Butterworth, 2003).

In a study by Lee and Zuze (2011) in Sub Saharan Africa on school resources and academic performance in Sub Saharan Africa, it was established that learning materials are logically and empirically associated with quality of learning in schools. The study indicated that access to textbooks is strongly linked to achievement. The research further reported that when parents are expected to purchase textbooks and writing materials, achievement gaps between rich and poor pupils expand. The research design was a cross-sectional design. The research population sample comprised 4 countries of Botswana,

Malawi, Namibia and Uganda and the sampled students were 12,609 and the schools were 707. Data analysis was quantitative and multi level methods were used. Structured questionnaires were used to collect data. The study's strength lay in its large size but the limitation lay in the use of one instrument. The study on relationship between educational resources and pupils performance in Kisumu had a broader focus unlike the Lee and Zuze (2011) study.

Instructional resources are significant in that they help in boosting clarification for better understanding of more complicated concepts (Wanyama, 2013). According to Wanyama (2013), instructional materials such as radios and educational films motivate the students as well as students' vibrant discussions. These materials induce critical thinking in the learners hence making them independent in tackling their activities. In the year 2002, the Ministry of Education Science and Technology (MOEST) in Kenya, in conjunction with United Nations International Children Education Fund (UNICEF) launched the child-centered interactive approach to teaching and learning. According to the Ministry of Education (MOE, 2001), the academic performance of learners can be influenced by availability, distribution and utilization of educational resources. Other factors, which have influence on academic performance, include the frequency of use of the resources as well as the time allowed for their use.

In Kenya, the government's concern on quality education is informed by the underlying policy shifts and the anxiety and uncertainties of the new changes in the curriculum. Therefore, the push for quality education has made the government and other education stakeholders to advocate for the new curriculum that is focus on skill-based approaches in teaching and the learners' needs and interests (MOE, 2011). Therefore, the government

endevours to provide adequate educational resources to public primary schools in the country to provide conducive environment for learning and to uphold the provision of quality education (Nyakundi, 2014).

However, for schools located in poorer rural areas the learning conditions tend to be worse despite the government's policy on equal education for all (Ojiambo, 2009). In a study by Ndege (2019) adequate learning/teaching resources were found to be lacking in most of the public primary schools in rural areas, yet these resources were found to be having a strong positive relationship with quality secondary education at r = 0.791. The resources looked at were equipment, stationery, workshops, library, laboratories and textbooks. Adwar (2018) discussed the influence of adequacy and utilization of teaching/learning resources on performance in KCSE. A regression analysis showed that a change in adequacy by one unit results in a change in performance by 0.879. This implies that academic performance improves with availability of these resources for teachers' use . In terms of utilization, a weak positive correlation of 0.283 and a regression coefficient of 1.807 meant that the level of utilization of teaching/learning resources influence student performance in KCSE. However, studies by Ndege (2019) and Adwar (2018) did not empirically bring out the existing relationship between instructional resources and pupils academic performance in public primary schools. The current study looked at the instructional resources in terms of audio-visuals aids, visual aids and objects and how these instructional materials relate with pupils academic performance in public primary schools.

In pursuit of provision of quality education, almost all the schools in Kisumu County have learning facilities and are on permanent school buildings (Kisumu County Education

Report, 2014). However, some schools had some learning classroom where walls are made of mud and iron sheets while about 11% had some of their learning and administrative structures made up of iron sheets and timber. Public primary schools particularly those in the rural settings of the Kisumu County have poor infrastructure facilities where classrooms had no lockable windows, desks were not enough for all pupils and some classrooms had no doors. The current state of facilities possesses a surety challenge to the pupils which in turn negates their psychological and physical development (Kisumu County Education Report, 2014).

Academic performance as an indicator of quality of education of most public primary schools in Kisumu County has remained below average compared to neighbouring counties of Nandi, Vihiga, Homa Bay, Kericho and Siaya thereby ranking Kisumu County poorly. The academic performance of public primary schools in Kisumu County has been fluctuating in the last 7 years in the period 2013 – 2019 and performing below neighbouring counties of Nandi, Siaya and Vihiga. Table 1 shows the academic performance of Counties neighbouring Kisumu County in KCPE

Table 1. Academic Performance in KCPE of counties neighbouring Kisumu County

County	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Nandi	245.00	267.00	263.45	268.25	267.99	265.99	265.59
Siaya	256.32	266.99	244.43	267.30	266.01	265.85	265.13
Homaby	248.13	259.31	259.44	257.63	269.71	267.80	260.14
Kericho	251.22	264.77	265.57	261.89	271.02	269.64	268.23
Kisumu	**240.45**	**258.00**	**262.25**	**258.18**	**265.65**	**264.29**	**259.16**
Vihiga	245.00	265.00	247.00	265.11	267.82	266.00	265.38
NATIONAL MEAN	**293.35**	**273.86**	**276.24**	**283.86**	**297.50**	**255.92**	**259.16**

Source: KNEC annual report (2013, 2014, 2015, 2016, 2017, 2018,2019)

From the above table, it is evident that Kisumu County has been registering low performance compared to her neighbours, for most of the years. Performance in individual subjects in Kisumu County is generally low compared to the national performance as illustrated in Table 2 below for the years 2018 and 2019.

Table 2: Subject performance in Kisumu County compared to national performance between 2018 - 2019

	Maths		**English**		**Kiswahili**		**Science**		**Social Studies**	
	2018	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**
Kisumu County	52.54	49.76	52.82	55.21	47.77	52.72	53.53	53.62	53.00	53.61
National mean	56.3	52.8	54.1	53.0	54.9	58.0	66.0	67.4	52.56	66.3

Source: Kisumu County Education Report (2018, 2019) postpone

From table 2 above, Kisumu County has been registering below average performance in Mathematics, English, Kiswahili, Science and Social Studies as compared to national performance for 2018 and 2019. While there may be many factors influencing academic performance of pupils such as teacher transfer, student related factors such as attitude and socio economic factors of the learners, it is not empirically supported whether educational resources also influence this performance in Kisumu County. The current study therefore, sought to investigate the relationship between the educational resources and pupils'academic performance in public primary schools in Kisumu County, Kenya.

1.2 Statement of the Problem

The desire to provide quality education for all children was one of the major objectives of the struggle for independence. As such, the government of Kenya has been trying to implement measures to improve performance and quality of education in primary schools. Therefore, the government has continued to implement educational policies such as teacher salary increment, employment of more teaching and non-teaching staff and availing physical resources in public primary schools in Kisumu County. However, it is evident that the quality of education in the county is compromised as seen in its academic performance that has been persistently low, compared to that of the neighboring counties. Low performance in KCPE in Kisumu County in spite of provision of educational resources by the government is a major concern as this leads to wastages of educational resources. Schools in Kisumu County have been posting low mean, for example in 2019 they had an average mean of 259.16 compared to schools in the neighbouring counties of Vihiga (265.38), Nandi (265.59) and Siaya (265.13) Counties as illustrated in Table 1 on page 20. In addition, public primary schools in Kisumu County have been posting below average mean score compared to most schools in the Country in all subjects as shown in Table 2 on page 20. Although there may be many factors such as pupils characteristics, parental contribution and school leadership and managment that may influence academic performance of the pupils in public primary schools, educational resources may also influence the performance. This study therefore sought to establish the relationship between educational resources and learners' academic performance in public primary schools in Kisumu County.

1.3 Purpose of the Study

The purpose of this study was to establish the relationship between educational resources and pupils academic performance in public primary schools in Kisumu County, Kenya.

1.4 Objectives of the Study

The study was guided by the following objectives:

i. To establish the relationship between financial resources and pupils' academic performance in Kisumu County.
ii. To examine the relationship between human resources and pupils' academic performance in Kisumu County.
iii. To determine the relationship between physical resources and pupils' academic performance in Kisumu County.
iv. To determine the relationship between instructional resources and pupils' academic performance in Kisumu County.

1.5 Research Hypotheses

The study was to test the following null hypotheses;

H_{01}: There was no statistically significant relationship between financial resources and pupils academic performance.

H_{02}: There was no statistically significant relationship between human resources and pupils academic performance.

H_{03}: There was no statistically significant relationship between physical resources and pupils academic performance.

H_{O4}: There was no statistically significant relationship between instructional resources and pupils academic performance.

1.6 Significance of the Study

The study generated information on how factors such as financial resources, human resources, instructional resources and physical resources are related to pupils' academic performance. The study findings will therefore be of benefit to various stakeholders in the primary education sub-sector.

i. Policy makers and Directorate of Quality Assurance and Standards (DQASO) in the Ministry of Education will use the findings of this study to harmonize public primary education service standard guidelines to quality standards that should be maintained and improved by the head teachers in all primary schools.

ii. Educational managers at the county and school level will use the findings of this study to initiate programs aimed at addressing the resource challenges facing public primary schools. The school managers will also use the findings of this study to strengthen features of their primary education programs for quality academic performance.

iii. The findings of the study will also add to the new knowledge that may be used by researchers and scholars.

1.7 Assumptions of the Study

The study was based on the following assumptions:

i. All public primary schools are subjected to frequent inspection and assessment by quality assurance personel to check on the availiability and adequacy of educational resources

ii. Public primary schools in Kisumu County have varying levels of provision of educational resources for teaching and learning.

iii. Public primary schools in Kisumu County have different learning environment as defined different availability of education resources.

1.8 Limitation of the Study

Some of the respondents had poor or negative attitude about the study, feeling uneasy with offering the information. Moreover, some of the respondents especially the head teachers were apprehensive and were not readily offering the information. For instance, information such as academic performance of the schools were considered sensitive by the school administrations, hence were not readily available on request. However, to address this, the researcher assured them of confidentiality of information and explained to them the intention of the study.

1.9 Conceptual Framework

The conceptual diagram in Figure 1 shows the relationship between educational resources and pupils' performance in primary schools. As indicated in the model, there are four sets of educational resources which constitute the input. They are physical resources, financial resources, human resources and instructional resources. This study used these inputs to investigate the availability and adequacy of the educational resources.

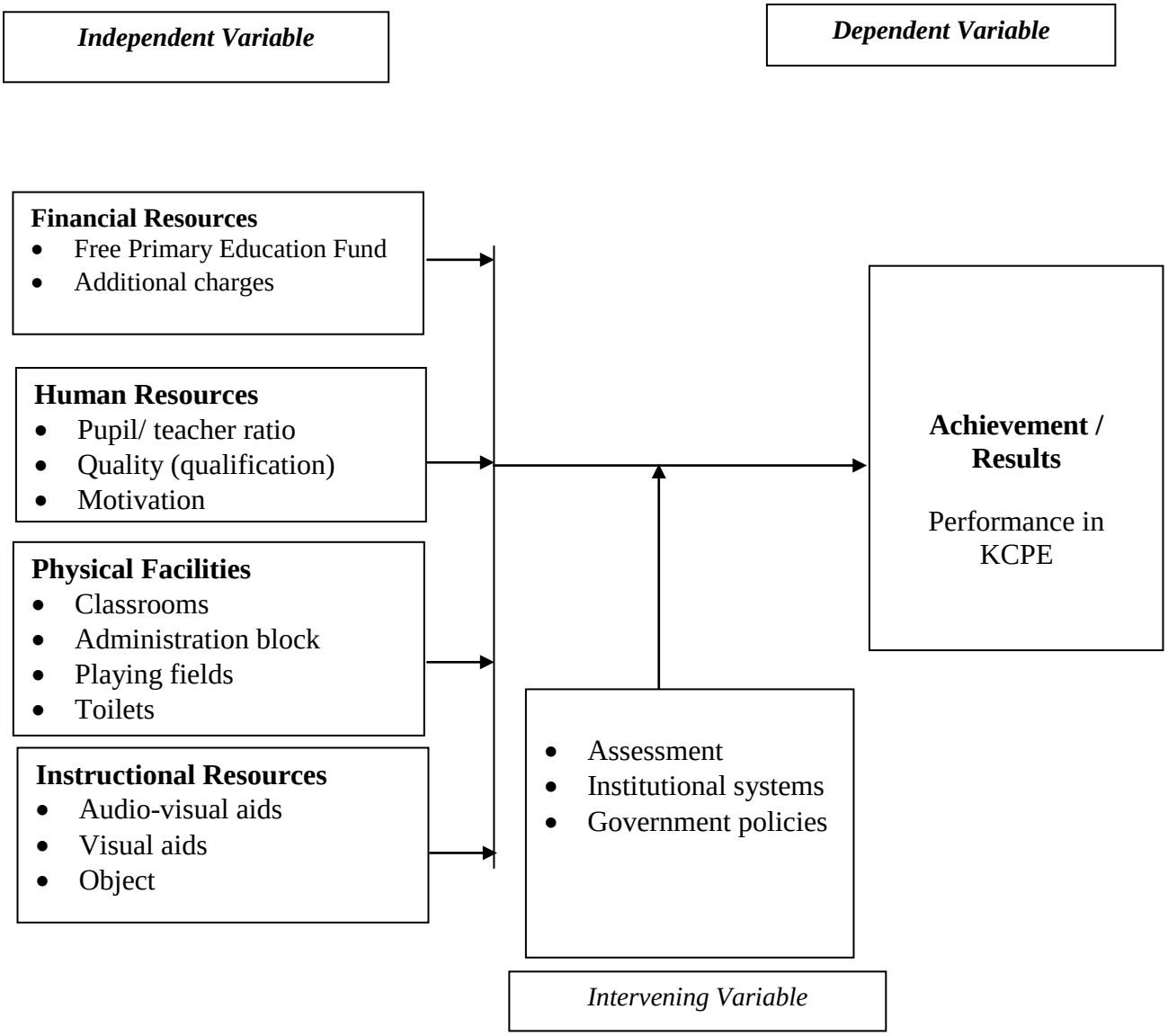

Figure 1: Conceptual Frame showing interrelationship between educational resources (independent variables) and academic achievement (dependent variable)

The framework shows that independent variables as shown by financial resources, human resources, physical facilities and instructional resources influence academic performance of class eight pupils in terms of their KCPE performance (dependent variable). However, this relationshio may be affected by intervening variables such as assessment, institutional system and government policies.

All educational resources are important in any learning institution, these resources adequately and well balanced with the learners' ration is capable of imparting quality education. Financial resource is important for it affects availability of physical and human resource. Financial resources enable putting up of physical facilities and acquisition of human resource. The quality of physical resources is quantified as being available and adequate depending on the population of the learners in a given institution within the study locale. The availability of human resources is as vital as any other resource. Adequacy of financial resources majorly depends on government funding and fee payment and with effective management of the same. Availability of instructional materials, human resource and physical resources greatly influence performance of pupils.

The study was guided by the Education Production Function Theory whose main proponents are Dewey, Husted and Kenny (1998). The theory focuses on the analysis in the administration of education whose impact is on school resources both physical facilities and learning resources. The theory assumes that there is substitutability of inputs to produce the same output. A standard formulation for the education production function takes the form: $A = F(X)$ where A represents the output produced by the activity, and X is a set of inputs. This theory is supported by Callan and Santerre (1990) and Nelson and Hevert (1992) who have provided empirical evidence that there is at least limited substitutability between educational inputs, for example teachers, physical facilities, learning resources, financial resources and pupils' academic performance. The study therefore used this theory to highlight various aspects of the learning process of the pupils in relation to teaching resources, teacher adequacy, physical facilities as well as human

resources role which are inputs to academic performance. On analysis of the role of school resources in determining pupils' achievement the theory posits that the output of the educational process (pupils' performance) is directly related to inputs that both are directly controlled by policy makers (teaching resources, teacher's adequacy, physical facilities, and human resources's supervisory role). Though academic achievement may be measured at discrete points in time, the educational production function theory is cumulative. This theory was therefore applicable to the study since it relates various inputs which include provision of learning resources, provision of human resources and physical resources and pupils' performance. The study was, therefore guided by this theory to establish the relationship between educational resources and pupils' academic performance in public primary schools in Kisumu County.

1.10 Definition of key operational terms

Educational resources: Physical, instructional, human and financial inputs in the education.

Financial resources: Monetary resources that drive school budget.

Human resources: These are the teachers' who make up the workforce of an institution

Instructional resources: These are materials that teachers use to teach the concepts outlined in the curriculum to ensure that learners are actively involved in their learning eg textbooks and teaching aids.

Physical resources: These are material assets that an institution owns that includes; classrooms, administration blocks,playing field and toilets.

Public Primary School: Primary schools managed by the government.

Pupils Academic Performance: It is the extent to which pupils have attained their short or long-term educational goals as indicated in their performance in KCPE.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter examined literature related to the study. The review is examined under academic performance as an indicator of internal efficiency, physical resources and pupil performance, human resources and pupil performance, financial resources and pupil performance and instructional resources and pupil performance.

2.2 Financial Resources and Pupils Academic Performance

Cost and financing of education is a complex subject; complex because finance underlies so much of the three overarching themes of contemporary education policy namely, quality and the relationship between funding and quality in any of its several dimensions; access, or the search for social equity in who benefits from, and who pays for education; and efficiency, or the search for a cost-effective relationship between revenues (those that come from parents and taxpayers) and outputs, whether measured in enrollments, graduates, or pupils learning (Barasa, 2006). To reduce education unit costs by enhancing cost-effectiveness in education, the government could target an upper limit of optimal class size of 45 pupils, and promote the efficient use of both human and physical resources. This option should be accompanied by cost reduction measures for parents towards making learning affordable.

According to Nnamani (2014), on financial status and psychology, literature points out that poor financial status affects academic performance, mental and physical well-being, and even their ability to find employment after graduation (Bodvarsson and Walker, 2004; Lyons, 200; Lyons, 2004). Corby and Benjamin (2008) in their write up titled,

‘Does financial Aid Status Affect Students’ Performance, Retention, Persistence, and Academic Success,’ found that differences in performance exist among the various financial aid participants and non- financial aid participants. These differences cannot be attributed to the financial aid group alone. Variables, both demographic and college specific are interacting with each other to form significant combination.

Nnamani’s article “Impact of students’ financial strength on their academic performance: Kaduna Polytechnique Experience” proved that indeed financial resources adversely affects learners performance, however, he based his theory on the assumption that these learners would be capable of earning their own financial support and would not receive government funding. This factor contributed to this research as it sought to bring in other variables including government funding, human resource,physical facilities and instructional resources to help the learners perform academically.

The government expenditure on education has been higher than any other ministry (RoK,2005a, b, 2007). The government’s expenditure on education has increased by 16.1% from Kenya Shillings 294.9billion in 2015/16 to Kenya shillings 342.3 billion in 2018/2019. Financial resource is a key element among educational resources. Financial resources are used in acquisition of other resources such as physical facilities, textbooks and human resources (Lumuli, 2009). Availability or adequacy of financial resources will enable a school acquire other facilities. School fees make up over 90% of total revenue collected by the schools (Selina, 2012). Even if government has been making contribution in form of Free Primary Education (FPE), the contribution may be inadequate unless well managed. Collection of fees still varies from school to school. Where collections are inadequate, the state of infrastructure will be poorly developed compromising content

delivery. This ends up putting a lot of strain on existing resources which end up compromising academic performance of the school (Eshiwani, 1993).

In a study done in Bangladesh by Sloth – Nielson and Benyam (2007) on free and compulsory primary education in Bangladesh, the study found out that under the school facilities grants, the government had devoted a lot of resources to procure textbooks, construct classrooms and teachers' houses and purchase furniture for pupils. The increase in educational inputs explained the high enrolment and quality of education in Bangladesh but failed to look at how the increase in educational related to pupils' academic performance. This was the knowledge gap that the current study filled.

According to UNICEF (2001) investment in education is widely recognized as an important element in a given country's development strategy. A study by Bisika (2012) in Malawi notes that a number of countries in Africa introduced Free Primary Education with recognition of the Human Rights. The importance of primary education cannot be assumed. It is considered to be more important than higher education in terms of impact on poverty alleviation, social progress and economic development. In effect most African countries put a lot of emphasis on primary education. This study is silent on how these African countries monitor the progress of pupils academic performance upto the end of their primary education that the study in Kisumu county filled.

Oyekan, (2015) while studying the allocation of financial resources to enhance educational productivity in Ondo State, Nigeria examined the financial resource allocation as it enhances educational productivity and outcomes in the three Unity Federal learning institutions in Ogun State, Nigeria, namely Federal Government institution,

Sagamu, Federal Government institution, Odogbolu and Federal Science and Technical institution, Ijebu-Imushin. The study adopted ex post factor research method and result indicated that the Federal Science and Technical College, Ijebu-Imusin was with the high percentage of 38.08% (543,556,102 naira) meaning that much productivity and learners' outcomes is expected from the school. Therefore, this corroborates with the opinion of Diane Pan Zena H. Rudo, Cynthia L. Schneider, Lotte Smith-Hansen (2003). Resource allocation studies suggest promising practices for schools. Hanushek (1994), cited in Diane Pan Zena H. Rudo,Cynthia L. Schneider, Lotte Smith-Hansen 2003), takes the position that education decision makers should be disciplined to examine their practices through evaluation and cost-effectiveness analysis. He suggests that in the absence of evidence about which inputs affect student performance, schools should use incentives to stimulate improvement. This includes performance incentives for innovative practices like parental choice and incentives to target programmes more effective in meeting learners' needs. It could also be observed that the financial allocation released to these colleges cover total personnel cost and total over head cost.

Barassa (2016) on a study on consequences of financial mismanagement in secondary schools in Kenya, identified problems encountered in secondary schools as; strikes, lack of learning facilities, school fee hikes and inadequate non-teaching staff. The study was however silent on the relationship between financial resources and learners' academic performance, that the current study looked at.

Free Primary Education was re-introduced in 2003 in Kenya with the government committing itself to achieving universal primary education. This is in line with international commitment such as Education for All (EFA) and also part of National

Economic Strategy set out by the government of Kenya in recent reforms (Republic of Kenya, 2005). FPE fund comprises of an allocation equivalent to Ksh.1,356 per child per year with the amount disbursed based on the number of pupils enrolled in schools within that area (Republic of Kenya, 2005).

According to the Report of Status of Education in Kisumu County (2014), FPE is perceived not in its entirely as free as it sounds. There are levies and charges that are endeared to parents during the admission. These charges (however small they may appear) have in particular demoralized extremely poor parents / guardians from admitting their children to class one. The right of the child to basic education has as a result been repeatedly violated in these circumstances. This study sought to identify these charges and argue for proper management of FPE funds given to primary schools and the relationship to pupils' academic performance.

Various schools have adopted various techniques of financial management among them being investing in Income Generating Activities (IGAs) to supplement school budgets. Funds earned through IGAs are used to put up school infrastructure or acquisition of stationery to support learning activity (Kiveu and Mayio, 2009).

A study done by Selina (2012) on the impact of IGAs on students Retention Rates in Public Secondary Schools in Vihiga District indicates that schools that have IGAs generated income that was used in promotion of motivational p rogrammes for teachers. Such schools ended up posting better performance in examination compared to schools that did not have such arrangements. This study therefore proposed to find out factors that have led to variation in academic performance among public primary schools in Kisumu

County by investigating the educational resources distribution and exploitation of such resources that exists among schools that have led to differences in performance. In order to address the above issue, this study proposes to establish how financial resources relate with academic performance of different schools as reflected in registered KCPE results.

2.3 Human Resource and Pupils Academic Performance

Human resource in school includes teachers, support staff and pupils. Human resource as a factor of production is affected by adequacy and quality as reflected by level of training and level of motivation (Juma, 2011). According to behavioural scientists, effective worker performance requires motivational ability and reward system that encourages quality work (Fettler, 2011). Performance of teachers as reflected by level of training and teaching experience will determine the quality of grades attained in an examination. A trained teacher will have necessary pedagogical skills which will promote learners' understanding and motivates the learner to learn, thereby promoting academic performance (Rivkin, Hanushek and Kain 2005).

Fettler (2011) also found a strong positive relationship between students' score and teachers experience level after controlling for students' characteristics. A study of high and low achieving schools with demographically similar student populations in New York city found that differences in teacher qualification accounted for approximately 90% of the total variation in average school level student achievement in reading and mathematics at all grade levels tested. It was not clear to what extent the quality of teachers in terms of academic achievement and experience influence the overall academic performance of pupils in primary schools.

Part of the measures taken by the Kenyan government to improve Primary Teacher Education include raising the minimum academic entry requirement to C plain from D plus, scr aping of the certificate level and introducing diploma thereby introducing specialization, incorporating Information Communication and Technolgy and HIV/AIDS in the PTE curriculum.

Pupil teacher ratio reflects the number of pupils that is handled by one teacher in a stream during a lesson (Lumuli, 2009). Low pupil teacher ratio means that a teacher will be able to handle fewer pupils, implying high attention level. High pupil ratio implies that a teacher will be able to handle many pupils at ago. This will make a teacher to employ teaching methods which are deductive rendering pupils' passive (Michelowa, 2003; Dembele & Miaro, 2003). However, there is need to strike a balance as extremely low pupil teacher ratio leads to underutilization of teachers while high pupil teacher ratio compromises academic performance affecting quality of education. This study therefore sought to establish the impact of human resource on pupils' academic performance as reflected by KCPE results.

According to Rivkin, Hanushek and Kain (2005), there has been consensus on the specific teacher factors that influence students' academic performance. Researchers have examined the influence of teacher characteristics such as educational qualification, gender and teaching experience on students' academic performance with varied findings. Akiri and Ugborugbo (2008) found that there was a significant relationship between teachers' gender and student' academic achievement. This is contrary to Dee cited in Akiri and Ugborugbo(2008). Yala, Wanyohi and Adeyemi (2010) found that teachers' experience and educational qualifications were the prime predictors of students' academic

achievement. However, Ravkin et al (2005) found that teachers' teaching experience and educational qualifications were not significantly related to students achievement. Easy (2005) study in Ghana found that the teacher factors that significantly contributed to low academic achievement were incidences of lateness to school, absenteeism, unpreparedness, alcoholism, poor teaching methods and inability to complete the syllabi in time.

Onyali, L. et al. (2018) noted that the poor performance of learners in internal and external examinations in some States in Nigeria despite parental investment in educating their children is highly worrisome. They noted that performance is the rating of achievement and the degree to which task or assigned duty is discharged and accomplished. In the view of Ricarda, Meibner, Weidinger, Wirthwein, (2017), academic achievement represents performance outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments, specifically in school, college, and university. It is the product of stakeholders' investment on education. To measure academic performance, there must be a parameter in order to assess the extent to which learners are progressing academically. The poor academic performance of schools across notable subjects in both internal and external examinations is alarming. Similarly, Lassa cited in Akinsolu (2010) claimed that education cannot be provided by just anybody, it requires a teacher who plans and delivers the lessons or instructions in such a way that objectives can be achieved.

Onyali's study examined the relationship between staff human resource management and academic performance of learners. The study was conducted in Akoko South-West LGA, Ondo State. Two research questions guided the study while two hypotheses were tested.

A correlation survey research design was adopted and the study population comprised all the teachers in public and private secondary schools in the State. A multi-stage sampling method was used for the study. Simple random technique was used to select five (5) senior schools in Akoko South-West area of the State, while proportional sampling method was used to select twenty (20) school teachers from each school, totalling to 100 teachers serving as the respondents for the study. The instrument used for data collection was a 10 items researchers' developed instrument titled; "Staff Human Resource Management and Academic Performance of Questionnaire (SHRMAPQ)". The face validation of the instrument was established by two research experts. Pearson product moment correlation was used to obtain a reliability of correlation co-efficient of r=0.61 indicating that the instrument was reliable for the study. Copies of the questionnaire were distributed and retrieved by the researchers. Data were analyzed using frequency count and simple percentage to answer the research questions, while the research hypotheses were tested using regression inferential statistical method. The study found out among others that recruitment process, proper placement of teachers in schools, regular performance evaluation have positive influence on learners' academic performance. Based on the finding, it was recommended among others that school managers should ensure that teachers are constantly updated by organizing suitable developmental programmes like conferences, workshops, seminars, professional courses, and inservice training to enable them perform their instructional delivery task in a professional manner. Conclusion was drawn. However, Onyali's study was presumed on strictly Human Resource Management of accounting students while this study was conducted to wholly determine the relationship between human resource management and pupils' performance in selected public primary schools in all areas taught.

According to Shushila (2004) in his studies on Kuria District, Headteachers' and school management have an impact on academic performance. According to this study, school chairman ought to have satisfactory expertise in preparing the school management towards engineering good school performance. T he study found out that academic performance of students in KCSE is to great extent influenced by the accessibility of teachers by students and school management.

Obadara (2005) viewed teachers' to be highly essential for a successful operation of the behavioural system and as key to the educational development. Without teachers with relevant behavioural traits, educational facilities cannot be used to facilitate academic performance of students. Undoubtedly the success and quality of any educational system depend on the quality of teachers' input in the system. Akanbi (2005) noted that it is a known fact that schools must have teaching and non – teaching personnel's. The question that arises is what traits do the personnel employed possess? The educational administrator by his position either in the ministry or in privately owned schools must equip the school with good and qualified teachers with relevant behavioural traits.

Many occupations recognizes employees' years of experience as a relevant factor in human resource policies, including compensation systems, benefits packages, and promotion decisions. The idea is that experience, gained over time, enhances the knowledge, skills and productivity of workers (Jennifer, 2010). According to Rice (2010), in education, teacher experience is probably the key factor in personnel policies that affect current employees: it is a cornerstone of traditional single-salary schedules; it drives teacher transfer policies that prioritize seniority; and it is commonly considered a

major source of inequality across schools and, therefore, a target for redistribution. The underlying assumption is that experience promotes effectiveness.

2.4 Physical Resources and Pupils Academic Performance

Provision of adequate learning facilities at all levels including equipment enhances the quality and relevance of imparted skills to learners (Lumuli, 2009). Learning involves interaction of learners with the environment. Teaching and learning resources include classrooms, laboratories, libraries, playing fields, textbooks among others. Indeed, physical resources go a long way in creating conducive environment that promotes effective teaching and learning. Juma (2011) links performance in examinations to state of teaching and learning resources in schools. He notes that students from poor backgrounds perform poorly in the examinations because the poor are often in areas where schools are seriously deprived of vital facilities, an attitude of helplessness may be inculcated early into children making them feel that being in school is a waste of time.

Physical facilities refers to the entire tangible infrsatracture in primary schools comprising land, building, furniture, electricity and water. In a study by Nandamuri (2012) in India on the status of education in Andhra, it was established that physical facilities had an influence of 0.026 on the quality of education at the 0.05 level of significance. This shows there is a weak relationship between physical facilities and performance of schools. The study showed that an overall school infrastructure based on eight vital parameters only 60% of the schools operated withspacious premises and 68% felt the furniture was inadequate and only 41% had spacious playgrounds and gender specific toilet faciltities had a need of 25% in the schools and 34% of the schools had insufficient accommodation as the buildings were fewer but all the government private

aided and private unaided had sufficient furniture available for both students and staff. These challenges make India to lag behind in the provision of quality education (Ndege, F, 2019).

The study used descriptive survey which was appropriate in determining the status of existing physical facilities. Out of the sampled 188 school in Krishna district of Ardhre Pradesh in India which was selected through stratified sampling. The data collected through a structured questionnaire administered to the respective school heads was analysed using chi-square and simple descriptive statistics. The strength of the study was based in the fact that the study used an appropriate sampling technique and an in-depth data analysis. The reviewed study did not investigate the influence of institutional inputs on quality of education.

Physical materials in terms of adequacy and quality have been noted to have a great impact on performance of learners in the examination (Husen, Saha, & Noonan, 1978). A school with inadequate classrooms will be forced to accommodate more learners than recommended. This will exert a lot of pressure on available resources such as teachers who may compromise their methodology as part of adaptive mechanism (Nafukho, 1991). The lack of basic facilities like laboratories has compromised the teaching of science subjects. Topics that are meant to be taught practically are taught theoretically as part of adaptive mechanism by teachers due to inadequate resources to enable effective teaching of the same. This ends up affecting negatively learners' performance reducing their competitiveness for opportunities whose placement is pegged on performance in such subjects (Mayama 2012; Lumuli, 2009). This study proposed to establish the state of

physical facilities in public primary school in Kisumu County, Kenya in order to evaluate how it impacts on quality education.

The role a well-equipped school environment play in the educational system cannot be over emphasized. Some of the importance of physical resources (school facilities), such as buildings, ventilated and spacious classrooms, furniture, instructional materials, electricity, toilet facilities, playing facilities, laboratories, libraries, aesthetics etc., as stated by Osuji (2016), are as follows: It creates conducive environment for teaching and learning, It helps the learners to develop skills through extra-curricular activities, It motivates the school teachers in the execution of their duties, It helps in the retention of teachers through friendly teaching environment and good allowances, It helps to reduce vices, truancy and drop-outs among learners, It gives room for researchers to carry out research, It enhances the activities of teaching and learning, It makes room for continuity in education, It helps to reduce the fear of insecurity in the school environment, It gives job satisfaction to teachers, and It helps in the actualization of educational goals through learner's and teachers' high performance (Amadi, E & Ezeugo, C.R, 2019).

Akinsanya, (2010), added that educational resources are important because the goal of any school depends on adequate supply and utilization of physical and material resources among others as they enhance proper teaching and learning. While Usman, (2007), noted that central to the education process are educational resources which play an important role in the achievement of educational objectives and goals by enhancing effective teaching and learning.

According to Akinsolu (2003) In her study on provision and management of physical facilities for primary education in Nigeria, found out that there is a gross inadequacy in facilities for Nigerian primary schools with availability to required percentage ranging from as low as 1.5% to a maximum of 35.2%. Her study stressed the importance of physical facilities in the management of education system. She opines that stakeholders need to ensure adequate provision of physical facilities in all educational system, be it primary, secondary, and tertiary levels to enhance learning and for improved productivity. She further affirms that education objectives can only be achieved with the availability of adequate and relevant physical resources in school. Bell and Rhodes (1996) noted that in order for a school to advance the learning opportunities offered to the pupils, it has to adequately utilize the facilities available in school. Such facilities include the administrative office, staffrooms and offices, classrooms laboratories, workshops, equipment, stores libraries, hostels, staff houses and the school grounds. This is also true according to a study by Engel Hardt (1961) who in his study on assessment of the effect of physical resources on pupils' academic performance pointed out that adequate physical resources have a positive result on pupils' performance.

Obinga, (2014) while studying the relationship between physical resources and internal efficiency of public secondary schools in Tana River County in Kenya stated that education creates a platform upon which economic, social and political prosperity of any nation is founded. He opines that investment in education can help bring about economic growth, improve productivity, contribute to social and national development and lead to reduction in social inequality. This study was therefore to affirm the above sentiments by confirming whether physical resources in any way relate to internal efficiency in schools

of Tana River County. The study specifically sought to establish the relationship between physical resources and internal efficiency of public schools in Tana River County in terms of number of classrooms, laboratories, textbooks, furniture, toilets/latrines, and electricity among others. The research particularly sought to determine the magnitude of inefficiency in form of dropout, repetition, and completion and aimed at providing possible solutions in relation to physical resources to minimize wastage in schools and establish corrective measures that can minimize dropouts and repetition. The study was guided by the cost benefit analysis theory which aims at achieving optimal output. This theory stresses that the out-put of any investment should be correlated with the in-put in order to assess profitability. The objectives of the study were to assess the adequacy of physical resources in development and enhancing internal efficiency in public schools, to find out the relationship between physical resources and dropout rate, to examine the relationship between physical resources and repetition rate of public schools in Tana river County, to find the relationship between physical resources and completion rate and finally to develop complimentary policies and interventions related to physical resources that can reduce wastage in public schools of Tana river County. The study was conducted using a descriptive survey and correlation research designs and the data was collected using questionnaires, interview guide and documentary analysis from 15 schools which were visited by the researcher; 1 County Director of Education, 3 District Education officers, 15 heads of school and 30 teachers were contacted with the heads being purposively selected and teachers selected randomly from the accessible population. Data generated was analyzed both qualitatively and quantitatively. Qualitative data from interview schedule and questionnaires was analyzed thematically based on research objectives. Data from documents analysis and numerical data generated from interview

schedules with key informants was analyzed using mean, frequency counts and percentages. Chi-square test was used to establish relationships between physical resources, dropout, repetition, and completion rates. On the first objective, the study found out that school in Tana River County had inadequate physical resources and that those available were in poor condition. On objective two the study found out that there was no relationship between dropout rates and condition of physical resources. On objective three and four the study found out that there was Positive significant relationship between repetition, completion rates and condition of physical resources. The research also revealed that the secondary education system in Tana River County as at the period of study was inefficient with a mean dropout rate of 16.0.On the basis of findings, the study concluded that physical resources are positively correlated with internal efficiency of public secondary schools in Tana river County. It was therefore recommended that for realization of internal efficiency, there was need to equip schools in Tana River County with the necessary physical resources, adequate mechanisms and procedures for ensuring retention and high completion rates in schools. Finally, the researcher suggested that schools should be given funds directly for them to have a chance of prioritizing and acquiring essential physical resources based on their specific needs. The researcher in her suggestions, challenged other researchers to go ahead and find out if there is any relationship between physical resources and pupils' academic performance.

According to a report by World Bank (2010), in developing countries such as Nigeria, Tanzania, and Kenya, it was established that class size of between 40 pupils to 60 pupils was modest in enhancing learning in secondary and primary schools. It was also

established that well-equipped class rooms, laboratories, libraries and workshops, make the learner to do necessary practices and this affects mastery of content as well as leading to good performance in exams. Fisher (2006) carried out research in schools on influence of infrastructure on students' academic performance and behaviour in Georgia and established that there was a correlation between building design and student performance. The study established that student academic achievement improves with improved building condition, air quality, lighting and temperature.

Lumuli (2009) established while carrying out research in internal efficiency measures in promotion of access and completion rates in public secondary schools in Bungoma District established that provision of adequate physical facilities at all levels including classrooms, laboratories, libraries, playing fields among others go a long way in creating conducive environment that promote effective learning and teaching. The former study looked at access and completion rates in secondary schools in Bungoma district. The current study found out the influence of physical facilities on provision of quality education at primary schools' level.

Gogo (2002) while carrying out research on impact of cost sharing on access, equity and quality of education in Rachuonyo district concluded that materials used in construction of schools building and type of buildings determines the level of cleanliness. He further stated that a well-equipped clean and orderly classroom creates a favourable learning environment. While this study was relevant, it did not look at physical facilities in primary schools which the current study is leaning towards.

Wambua (2011) while carrying out research on impact of school infrastructure on access and provision of quality secondary education in the former Kisumu Municipality, concluded that access is pegged on number of available space in secondary schools and that these is the guiding principle of form one selection. Due to the limited number of schools, almost half of the pupils completing primary schools lacked opportunity to enrol in secondary schools. She concluded that the increased enrolment was not in tandem with available infrastructure and this may have negative impact on provision of quality education. The current study looked at the quality of physical facilities in primary school which the former study did not do.

2.5 Instructional Resources and Pupils Academic Performance

Mayama (2012) defines quality education as the total effect of the features of the process, or service on its performance, or the customer's or client's perception of that performance. It is not just a feature of a finished product or service, but involves a focus on internal processes and outputs, and includes the reduction of waste and the improvement of productivity. An individual's educational outcome can be measured in terms of educational variables (years of schooling achieved; marks obtained at each level; literacy/numeracy scores; probability of transition to further education), or in terms of labour market variables (earnings; access to further training; better job quality). All these dimensions combine in determining the individual's human capital, which depends generally on the quantity and quality of knowledge achieved.

According to Hanushek and Kain (2005) instruction asset of the school are critical in enhancing pupils' academic performance. Instructional assets include learning materials, reading materials. A study done in the USA by Kelly, Gersten & Carnine, (1990) note

that poor or traditional instruction is the primary cause of math difficulties for many students with learning problems. They support the notion that students with difficulties can be taught to improve their performance through the use of appropriate teaching instructional resources. Given the poor performance in maths, the progress of students with learning difficulties in education is hindered. Therefore, there is need to improve their performance standards by designing resources and an effective maths curriculum. So then, without better maths instruction and resources by teachers, these pupils with difficulties may continue to face much frustration and failure (Mercer & Miller, 2003).

The World Bank (2012) observes that in Denmark and Spain, a third of the learners and in Canada and Greece, Iceland, New Zealand and Poland, over a quarter appear to miss school or skip classes regularly and in Japan and Korea by contrast the low attendance category account for lower than 1 in 10. Regular attendance of classes such as in Japan and Korea, results in higher quality education while poor class attendance like Denmark, Spain, Poland and Canada undermines the learners' academic achievement. Studies in developed countries reveal disparities between intended instruction time in the curriculum, actual time they spend in situations where pupils and instructional materials are properly matched and learning occurs in a conducive environment. The amount of time decreases from the first to the fourth of these categories especially schools in poor communities (World Bank, 2012 & UNESCO, 2012). Ineffective time management reduces time available for learning comprising syllabus completion and undermining the quality of education.

There are different types of instructional resources used in teaching pupils in public primary school. Instructional resources can be locally made or imported, and they make tremendous enhancement of lesson impact if intelligently used. Okogbuo (2000) classifies the types of instructional resources as follows: Visual resources: pictures, diagram buildings, projectors, teacher themselves, charts, real objects, books, newspapers, magazines, pamphlets, handouts, clock face, simple abacus, coloured objects, puppets, models and chalkboard. Audio resources: tape recording cassette, radio, CD and dramatization. Audio-Visual Resources: television, video recording, motion pictures with soundtracks, slides, films and multimedia, computer and DVD. Graphics resources: charts, picture board, number cards, tracing paper, puzzles, matching cards, picture book, reading board, cartoon books and stacking toys. Realia resources real objects like posters, flags, magazines, plants, water, pictures, graphics, animals, sand, coins and seeds.

Instructional resources play a significant role in the teaching and learning process particularly with students who have difficulties. Characteristic of them is the working memory deficit and may be mediated by factors such as intelligence quotient (IQ) or processing speed (Hulme & Snowling, 2009). The executive director (Nate, 2005) Tanzania in Mathematics Advancement Centre (TMC) asserts that many schools do not have visual aids and other equipment necessary in teaching maths calculation. He also adds that some schools' ratio of sharing is (1:6) one textbook to six students. Students may not understand complex mathematical concepts like such as multiplication, division and some abstract ones that require implication. Similarly, they do not remember to build

on the existing knowledge to help them master what they do not know yet (Butterworth, 2003).

In a study by Lee and Zuze (2011) in Sub Saharan Africa on school resources and academic performance in Sub Saharan Africa, it was established that learning materials are logically and empirically associated with quality of learning in schools. The study indicated that access to textbooks is strongly linked to achievemtn. The research further reported that when parents are expected to purchase textbooks and writing materials, achievement gaps between rich and poor pupils expand. The research design was a cross-sectional design. The research population sample comprised 4 countries of Botswana, Malawi, Namibia and Uganda and the sampled students were 12,609 and the schools were 707. Data analysis was quantitative and multi level methods were used. Structured questionnaires were used to collect data. The studies strength lay in its large size but the limitation lay in the use of one instrument. The study on relationship between educational resources and pupils performance in Kisumu had a broader focus unlike the Lee and Zuze (2011) study.

According to Tety (2016), teachers in community schools most especially in rural community schools face some challenges in accessing instructional materials. One of the big challenges that teachers in community schools face in accessing instructional materials is meagre funds provided by the government to community schools for purchasing instructional materials. Community schools depend to the large extent on the government for funding. Very little support is received from local government and communities around the schools most especially in rural areas due to poverty. The funds are provided in form of capitation grants. The capitation grant is aimed at improving the

quality of education by making sure that sufficient leaching and learning material are found at school level. In particular, the capitation grant is meant to finance the purchase of textbooks and other teaching and learning materials as well as to fund repairs, administration materials, and examination expenses (Uwazi, 2010).

He further notes that while the number of learners who are enrolled in schools has been increasing each year, education capitation grant has been dropping. Even without adjusting for inflation, the actual amount of money reaching schools for capitation grants is clearly much less today compared to what it was between 2002 and 2003. According to the Education Public Expenditure Tracking Survey of 2004, in the period 2002-2003 schools received an average of 5,400 shillings per pupil. In 212007/08 however, the money actually reaching the schools had declined to 4,189 shillings per pupil (URT, 2010). This amount of money is grossly insufficient to purchase a minimum set of textbooks apart from other instructional materials which are highly needed by the teachers. According to Onche (2014), government's Policy towards efficient provision of these aspects of educational resources has not been encouraging and has always not been well planned, monitored, supervised and evaluated with rural schools as the back bench of implication of these policies.

The purpose of Tety's research was to examine the extent to which the selected community schools in Rombo District utilize quality and adequate instructional materials in classrooms and how this has promoted academic performance of learners. His research was based on three objectives including: to explore the views of teachers and learners on the extent to which instructional facilities affect student performance, to examine the challenges that teachers in community schools face in accessing instructional materials

and to assess the strategies that teachers use to minimize the challenges of attaining and using quality instructional materials. The study adopted a cross sectional survey design. The study population involved all community secondary schools in Rombo district. Out of 38 community schools in Rombo district 5 schools were randomly selected for data collection. In each school, 5 teachers and 20 learners filled semi-structured questionnaire. Also heads of each school and 1 school district education officer were interviewed. The following were findings of the study: first, instructional materials are the key to teachers' and students' performance. Secondly, most community schools in Rombo District suffer shortage of essential teaching and learning materials. Thirdly, the study revealed that teachers used different strategies to minimize the challenges of attaining and using quality instructional materials like borrowing books and improvation. The study recommends that the government should budget sufficient funds for improving the availability of instructional materials in all schools. Tety's study gave a clear indication on the real situation with the implementation of instructional materials in schools, however, it focused on document analysis and interviewing the school administration only while this study focused on all the stakeholders including the learners.

Adequacy and effective use of resources can make a big difference to a school and the learner (Fisher, 1995). Teachers of learners with difficulties in mathematics and sciences should not just settle for good enough but seek to do better by ensuring that adequate and effective instructional resources are employed. Orodho, Waweru, Ndichu & Nthinguri, (2013) advise that adequacy of instructional resources such as textbooks enable learners to follow the teacher's sequence of the lesson presentation and subsequently aids in the understanding of the lesson. The teacher's first responsibility is to ensure that his or her

class is adequately provided with resources (Edgington, 1998). Availability and adequacy of a wide variety of instructional resources can stimulate the interest and actively engage learners with learning disabilities in mathematics (Herward, 2009). In Kisumu County, the relationship between instructional resources in public primary school has not been accounted for and therefore this study shade light on that relationship and pupils' academic performance.

Koech (2013) in Kuria East district found out that 53.3% of the head teachers indicated that parents bought supplementary textbooks for their children but 66.7% of the teachers indicated that parents did not buy textbooks for their children and 90% of the head teachers indicated that parents should buy materials. The study adopted a descriptive survey design which is appropriate as it concerns current state of phenomena of the variables. The target population consisted of 4770 pupils, 57 head teachers and 278 teachers from which simple random sampling was done to select 35 head teachers, 70 teachers and 500 pupils. The use of simple random sampling may not have taken care of the strata in the education system. Questionnaires were used for the head teachers and teachers and focus group discussions with 7 pupils per group. The use of two instruments provided variety. Data was analysed both quantitatively and qualitatively. The strength of the study is that it used reliable instrumentation and sampling procedure but lacked the inclusion of various strata limited in-depth analysis. The reviewed study did not deal with influence of instructional inputs on the academic performance of pupils. This is the gap in knowledge that the study seeks to filled in the study of Kisumu County.

According to Akungu (2014) on discussing the influence of teaching and learning resources on students' performance in Kenya Certificate of Secondary Education in free day secondary education in Embakasi District, Kenya, noted that the relationship between Teaching and Learning Resources (TLR) and performance include, Likoko, Mutsotso & Nasongo (2013) in the study on adequacy of instructional materials and physical facilities and their effect on quality of teacher preparation in schools in Bungoma county and a study done by Mbaria (2006) on the relationship between learning resources and performance in schools in Ndaragwa district. All the above studies indicate that TLR were higher in higher performing schools than in low performing schools and that there is a significant difference in resource availability in the higher performing schools and low performing schools. Also indicate that most institutions are faced with challenges such as lack of adequate facilities like libraries and inadequate instructional materials and these factors tend to have a negative effect on the quality of learners produced. Adan (2011) in the study on challenges faced by head teachers in implementing FDSE program in Wajir also posits that there is a major challenge on adequacy of physical facilities in most schools in the district, the only adequate materials available are textbooks, but the schools are in dire need of facilities like classrooms, toilets, desks. Chairs, laboratories as well teaching aids, and recommended that a larger percentage of FDSE funds be diverted to cater for TLR.

Provision and utilization of facilities is the responsibility of stake holders in education. (National Policy on Education, 2012). The Kenyan government ensures the implementation of the national policy on education by providing an enabling environment. Parents are also involved in purchase of resources in schools and more so in

putting up physical facilities through what is popularly referred to as Parents Teachers Association (PTA) projects. With the introduction of FDSE, the government has experienced challenges with provision of TLR in schools. The Kamunge report (1988) recommended the establishment of public day secondary schools as a way of expanding quality day secondary education, despite all these, planning and provision for TLR has remained a challenge in today's FDSE with low learning outcomes over the years.

Akungu (2014) noted that education is a fundamental human right, and a key input in production and development of an economy. This explains why countries worldwide plan for and increase budgetary allocations to fund various educational programmes each financial year. There is however concern on the quality of education offered and performance of learners in national examinations. The purpose of his study was to examine the influence of teaching and learning resources on learners' performance in the national examination in Embakasi district. Four objectives were formulated to guide his study; the objectives of the study were to determine how availability of teaching and learning materials used learners' performance, which was done by determining the availability of learning materials utilized in schools, the study also established how adequacy of physical facilities and human resources influence learners' performance and also assessed the extent of resource utilization and its effect on learners' performance in the national examination in Embakasi district, following provision of teaching and learning resources by the government to the public schools. The study used descriptive study design, and data was collected using three sets of questionnaires for the head teachers, teachers and learners. The target population consisted of all the Free day secondary schools in the district, their head teachers, teachers and learners. The sample

consisted of 6 heads, 18 class teachers and 240 learners. The study found out that teaching and learning materials were available and are utilized in schools, especially those used in classroom instruction, like chalks, dusters and charts except physical facilities are lacking and there's gross inadequacy of human resources. This resulted to overstretched resources with annual increase in enrolment rates thus compromising the quality of education. Therefore the government should allocate more funds for TLR provision to improve the status and condition of physical facilities and employment of more teachers. Based on the study findings, it is recommended that similar research could be carried out in other parts of Kenya since different parts of the country have different characteristics.

Lydia and Nasongo (2009) asserts that the concept of performance was a major source of concern to all education stakeholders including teachers, researchers, parents and government. Parents are concerned about their children's academic performance for they believe that good academic results will increase their competitiveness in securing better careers and hence assurance of a better life. However, the reviewed studies did not empirically provided the evidence on how availability and adequacy of teaching personnel as a component of educational resources, related with academic performance of pupils in public primary schools.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter covers how the data was sourced, processed and analyzed. It also contains information on research design; target population, sample size and sampling procedure, research instruments and the validity and reliability of the instruments. Ethical consideration is also discussed.

3.2 Research Design

Kerlinger (2003) defines research design as the plan and structure of investigation so conceived as to obtain answers to research questions, the strategy for a study and the plan by which the strategy is to be carried out. This study used both descriptive and correlation research design. Descriptive research design is an approach that aims to accurately and systematically describe a population, situation or phenomenon. It can answer what, where, when and how questions, but not why questions. Kothari (2013) also define descriptive research design as a method which enables the researcher to summarize and organize data in an effective and meaningful way. The descriptive method was adopted since it helps collect data from the population and to get the description of existing phenomena by asking individuals about their perceptions, attitudes, behaviours and values, through questionnaires, interview schedules and Focus Group Discussions FGDs. It entails the observing and describing of the behaviour of a subject without influencing it. This design was chosen because the researcher was not able to manipulate the financial, human, physical and instructional resources for the simple reason that they had already occurred.

The study also employed a correlations research design to provide a statistical measure on the relationship between resources and pupils performance. As noted by Clark (2005), a correlation study is an analytical survey which describes the statistical measures of association or a relationship between two phenomena. This study looked into the relationship between financial resources, human resources, instructional resources and physical resources and pupils' performance.

3.3 Area of Study

The area of study was Kisumu County that lies in latitude 0° 14' 60.00"N and a longitude of 34° 54' 59.99"E it has an area of 2,085km2 and a total population of 1,155,574 according to the 2019 Kenya population and housing census. It is made up of seven sub-counties namely; Kisumu West, Kisumu Central, Kisumu East, Seme, Muhoroni, Nyando and Nyakach. The county borders Siaya County to the West, Kericho County to the East, Homa Bay County to the south and to the North Vihiga County. It has both rural(464,587) and urban(504,322) populations whose major economic activities include; subsistence farming, rice farming, sugarcane farming livestock keeping, fishing and small scale trading its climate is modified by the presence of Lake Victoria. All the schools in Kisumu County have learning facilities and are on permanent school buildings (Kisumu County Education Report, 2014). However, some schools had some learning classroom where walls are made of mud and iron sheets while about 11% had some of their learning and administrative structures made up of iron sheets and timber. Public primary schools particularly those in the rural settings of the Kisumu County have poor infrastructure facilities where classrooms had no lockable windows, desks were not enough for all pupils and some classrooms had no doors (Kisumu County Education Report, 2014).

Based on academic performance, Kisumu County has been registering low performance compared to her neighbouring counties, for the past five years.

3.4 Target Population

The population of the study consisted of 615 public primary schools, 615 head teachers and 615 senior teachers and 24,132 Standard 8 pupils in Kisumu County, Kenya.

3.5 Sample size and Sampling Procedure

The general rule in both qualitative and quantitative research is to use a large sample as possible since the larger the sample the more likely the subjects will be representative of the variable in the population (Gall & Borg, 2007). Purposive sampling was used to select CQASO because he/she is responsible for monitoring education quality in the county. David and Sutton (2009) acknowledge that in purposive sampling, the units are selected according to the researcher's knowledge and opinion about which respondents they think were appropriate to the topic. Stratified random sampling technique was used in this research work to select the sub- County of the respondents who participated in the study. Stratified random sampling is a method of sampling that involves the division of a population into smaller sub-groups known as strata. In stratified random sampling, or stratification, the strata are formed based on shared attributes or characteristics such as education performance (Gall & Borg, 2007).

In this technique, a population was divided into sub groups called strata and a sample selected from each stratum to ensure representativeness. The Strata was the various Sub – counties in the county. In determining the sample size, Krathwohl (1997) and Cresswell (2003) suggest that a range of between 10 to 30 % of the sample of the total population

was more representative. Therefore, the study sampled 2413 class eight pupils, which represented 10% of the target population of 24132. In the study, Headteachers and senior teachers from the selected schools were purposively sampled to participate in the study, since this category of respondents were informative and desired characteristics for the study.

Table 3: Summary of sample sizes used in the study

Sub – counties	Targeted population	Sample Size (20%)
NYAKACH	144 Head teachers	29
	144 senior teachers	29
	3137 class 8 pupils	346
MUHORONI	109 Head teachers	22
	109 senior teachers	22
	3568 class 8 pupils	351
KISUMU EAST	46 Head teachers	9
	46 Senior teachers	9
	2132 class 8 pupils	327
KISUMU WEST	81 Head teachers	16
	81 Senior teacher	16
	3015 class 8 pupils	346
SEME	106 Head teachers	21
	106 senior teachers	21
	3630 class 8 pupils	351
KISUMU CENTRAL	30 Head teachers	6
	30 senior teachers	6
	2,905 class 8 pupils	341
NYANDO	99 Head teachers	20
	99 senior teachers	20
	3977 class 8 pupils	351

3.6 Research Instruments

The tools used were questionnaires, an interview schedule, document analysis and observation schedule. A questionnaire was used because it was easy to administer and confidentiality of information was assured since the respondents were not required to write his/her name and was used on larger number of respondents within a short time. An interview schedule was also used to find in-depth information from the CQASO. An observation schedule and document analysis was used to ascertain information given in the questionnaires. Focus group discussion in groups of 10 (ten) was initiated to obtain additional information from Pupils.

3.6.1 Questionnaires for Head teachers of Public Primary Schools (QHPPS)

According to Amin (2005), questionnaires are pencil and paper instruments designed to gather data from individuals about their knowledge. The questionnaire in this study was divided into two sections with first seeking to provide personal information of the respondent and school background information. The questionnaires included sample questions presented by a four point Likert item; Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD).

3.6.2 Questionnaires for Senior Teachers in Puplic Primary Schools (QSTPPS)

According to Amin (2005), questionnaires are pencil and paper instruments designed to gather data from individuals about their knowledge. The questionnaire in this study was divided into two sections with first seeking to provide personal information of the respondent and school background and information. The questionnaires included sample questions presented by a four point Likert item; Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD).

3.6.3 Questionnaires for Class Eight (8) pupils in Public Primary Schools (QSPPPS)

According to Amin (2005), questionnaires are pencil and paper instruments designed to gather data from individuals about their knowledge. The questionnaire in this study was divided into two sections with first seeking to provide personal information of the respondent and school background and information. The questionnaires included sample questions presented by a four point Likert item; Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD).

3.6.4 Interview Schedules for CQASO

The study used interviews to source information from County Quality Assurance and Standards officer (CQASO) as a major means of gathering additional information on the status of physical, Financial, instructional and human resources in the county. CQASO's insight into all this resources was to help all stakeholders have an understanding on pupils' performance in the county.

3.6.5 Documentary Analysis Schedules

Documentary analysis schedule sought information on KCPE examination results, school enrolment per class, fee payment records and the number of teachers and the researcher's remarks on each particular document.

3.6.6 Pupil Focus Group Discussion (PFGDG)

Focus group discussion guide consisted of questions concerning educational resources and pupils' academic performance. The pupils were placed in groups of ten (10). Standard eight pupils were chosen because they had been in the system for long and were in a better position to respond to some issues. The PFGDG are less time consuming

compared to individual interviews and it gathers more data from many respondents at the same time (Beyea & Nicoll, 2000). It was used to gather information for all objectives and any other relevant additional information for this study. It was attached as appendix H.

3.6.7 Observation Schedule

An observation schedule was used to make physical count and availability of resources in each of the selected study schools. This helped the researcher verify their availability and adequacy in the school.

3.7 Validity and Reliability of the instruments

3.7.1 Validity

Validity refers to the extent to which an instrument measures what it purports to measure (Amin, 2005). The present study measured construct validity of the study instrument. Kothari and Grag (2019) refers to construct validity as a measure of the degree to which data obtained from an instrument meaningfully and accurately reflects or represents a theoretical concept. Therefore, to ensure validity of the questionnaire and the interview schedule, the draft instrument were subjected to scrutiny by the supervisors, other lecturers in the department and colleagues at Maseno University. They assessed the content validity of the questionnaire, interview schedules and observation checklists to improve the quality of the instruments.

3.7.2 Reliability of the Research Instrument

The reliability is the ability of a measuring tool to provide the same results on repeated occasion (Schneider.*et al.,* 2003). Cronbach alpha test of reliability for Likert scale was used to address the question of consistency of the tool. An Alpha (*α)* value equal or greater than 0.7 was considered an acceptable value for tool to be viewed as reliable (Burns and Grove, 2007). The 2 head teachers, 2 senior head teachers and 24 class eight pupils who participated in the pilot study were not engaged in the final study.

To ascertain reliability of the questionnaire, Cronbach Alpha was used as a measure of reliability. This is because the questionnaire used in the study was designed on a Likert scale format. The questionnaire had five scales of varying number of items. Each scale measured specific variables of the study. The sample sizes for reliability testing were calculated from the fact that according to Cresswel (2012) for pilot testing and subsequent Cronbach alpha test of reliability, 1-10% of the parent sample size is adequate. Therefore, researcher administered questionnaires to 12 head teachers, 12 senior head teachers representing 10% of their parent sample sizes and 24 class eight pupils as 1% of the parent sample size, for the pilot study. Their responses were not included in the final analysis. Data was analysed using SPSS to return Cronbach Alpha for the number of items in the scale. Reliability coefficients for each of the scales and the overall reliability measure are shown in subsequent tables.

Table 4 Reliability of the Instruments for Headteachers

Variables	N	Items	Items Deleted	Reliability
Academic performance	12	9	2	0.791
Relationship between physical resources and pupils' performance in public primary schools	12	12	3	0.812
Relationship between financial resources and pupils' performance	12	8	1	0.803
Human Resource and pupils' performance	12	13	2	0.781
Relationship between instructional resources and pupils' performance	12	13	2	0.791
Average Reliability	**12**			**0.80**

From the summary table on reliability, academic performance had a reliability coefficient of $\alpha = 0.791$, physical resources had a reliability coefficient of $\alpha = 0.812$, financial resources $\alpha = 0.803$, Human Resource $\alpha = 0.781$, instructional resources $\alpha = 0.791$. The instrument for headteachers had an overall coefficient $\alpha = 0.80$ thus reliable based on Alpha > 0.7 (Creswell, 2012).

Table 5 Reliability of the Instruments for Senior teachers

Variables	N	Items	Items Deleted	Reliability
Academic performance	12	9	3	0.742
Relationship between physical resources and pupils' performance in public primary schools	12	12	1	0.782
Relationship between financial resources and pupils' performance	12	8	2	0.783
Human Resource and pupils' performance	12	13	2	0.809
Relationship between instructional resources and pupils' performance	12	13	1	0.784
Average Reliability	**2**			**0.78**

From the summary table 5 on reliability, academic performance had a reliability coefficient of α = 0.742, physical resources had a reliability coefficient of α = 0.782, financial resources α = 0.783, Human Resource α = 0.809, instructional resources α = 0.784. The instrument for headteachers had an overall coefficient α = 0.78 thus reliable based on Alpha > 0.7 (Creswell, 2012).

Table 6 Reliability of the Instruments for Class eight Pupils

Variables	N	Items	Items Deleted	Reliability
Physical resources and pupils' performance in public primary schools	24	12	1	0.679
Financial resources and pupils' performance	24	8	2	0.741
Human Resource and pupils' performance	24	13	2	0.682
Instructional resources and pupils' performance	24	13	1	0.691
Average Reliability	**24**			**0.698**

From the summary table on reliability, physical resources had a reliability coefficient of α = 0.679, financial resources α = 0.741, Human Resource α = 0.682, instructional resources α = 0.691. The instrument for headteachers had an overall coefficient α = 0.698 thus reliable based on Alpha > 0.7 (Creswell, 2012).

3.8 Data Collection Procedures

The researcher sought permission from the School of Graduate Studies of Maseno University and Maseno University Ethics and Research Committee. The researcher also sought permission from the Kisumu County Director of Education. Thereafter, the researcher visited the individual schools to book an appointment with the Headteachers

after explaining the purpose of study to the Headteachers and the Teachers. On the appointed day, the researcher visited the sampled schools and administered the questionnaires and interview schedules on the sampled respondents.

3.9 Data Analysis Procedures

Data collected was subjected to some preparation which entails editing, coding and data entry before being summarized. Editing detected errors and omissions, was corrected where possible and certified that maximum data quality is achieved. Coding involved assigning numbers or other symbols to answers so the respondents were grouped into a limited number of classes or categories. This helped the researcher reduce several replies to a few categories containing the critical information needed for analysis. The data was summarized by descriptive statistics of the mean and standard deviation while multiple regression analysis answered the research objectives.

To establish the pupils' performance in KCPE, the researcher collected data from primary schools and determined the overall mean of the county. A comparison in subject performance was made to determine mean performance. Data from questionnaire and documents analysis was coded. A 4-point rating scale was used to gauge respondents' opinion on different issues. They were coded using score values with each of the five points on the rating scale being given score values as follows: Strongly Agree (SA) – 4, Agree (A) – 3, Disagree (D) – 2, Strongly Disagree (SD) – 1. Arithmetic mean was done for every element on the rating scale; thereafter an average of the arithmetic mean of the elements was done. In the interpretation of the scores, a value between 1.0 and 1.44 meant very low influence; on the other hand, a value between 1.45 and 2.44 meant low influence while a value between 2.45 and 2.99 meant moderate influence while 3.00 and

3.44 meant high influence. A value between 3.45 and 4.00 meant very high influence. This was followed by a transfer of the response into summary sheets for tabulation. The tabulated information was converted into frequencies, which was converted into percentages and relevant tables developed for presentation. Data was coded by assigning numerical values to each response and entered into the computer. Statistical package for social sciences (SPSS) and Ms. Excel was used to aid in data analysis of all quantitative and qualitative data.

3.10 Ethical Considerations

In this study, the researcher recognized that each human being has value in himself or herself, and that this value must inform all interaction between people. A declaration form from the researcher to guarantee confidentiality, appropriate participant information sheet and consent forms were developed. There was a signed declaration form promising anonymity/confidentiality, justice and right to withdraw from the study whenever a respondent felt a need to do so. The researcher personally administered the questionnaires and asserted to the respondents the confidentiality and anonymity of the information given. The researcher put in place appropriate strategies to persuade the respondents to cooperate and assured them that their rights were protected. This was through access to the institutions, informed consent, confidentiality and privacy; anonymity, data storage, acknowledgement of sources of reference, mien and decorum.

The researcher allowed respondent to give information voluntarily and respect their attitude. The researcher explained to the participants on the procedures to be followed during the data collection. This assisted them to give information willingly. Since the

learners in this research were below the age of consent, the researcher sought permission from the parents through a consent form which was delivered to the school days before the interview date. The anonymity of the participants was maintained and the data collected was for research purpose only and not for any financial gain. The researcher used symbols, letters, numbers and titles for the subjects instead of using their real names in order not to offend anyone included in the study.

The researcher assured the participants that the information given was to be treated with utmost confidentially, only to be used for academic purposes and that no undesirable persons would access the information. This enabled the participants give honest and complete information.

The researcher had a pleasant look and acceptable mannerism before and after interacting with the participants in the primary schools where the research took place and even throughout the research process. The researcher upheld utmost decorum, traits according to the customs of society and appropriate code of conduct as expected in the fields of research (Orodho, 2009). The raw data was collected and filed for reference and accessibility. After data analysis, computer printout was stored while storage devices like CDs were used to store soft copies of the analysed data. Utmost care and protection of the saved data was ensured whereby the researcher was the only authorized holder and implementer of the results. Information obtained from other sources or authorities to support the research was acknowledged in the form of references

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents research findings, their interpretation and discussion. The study assessed the relationship between educational resources and pupils' academic performance in public primary schools in Kisumu County, Kenya. The chapter has been subdivided into sections and sub – sections. The first section looks at the demographic information of the respondents and the trend of academic performance. The second section looks at the relationship between financial resources and academic performance. The third section looks at human resources and academic performance. The fourth section looks at the relationship between physical resources and academic performance and lastly, the fifth section looks at the relationship between instructional resources and academic performance.

The respondents whose responses were received were 123 headteachers, 123 senior teachers, 2,413 pupils and 1 county quality assurance and standards officer. The response rate was 100% for each category.

4.2 Return Rates of Instruments

The study administered questionnaires to 2413 class eight pupils, 123 head teachers, 123 senior teachers and 1 county quality assurance and standards officer. The study established that all the respondents of different categories duly filled the questionnaires and returned for analysis. This implies that the study achieved response return rate of 100% for the respondents. As for the county quality assurance and standards officer, the

study also achieved 100.0% response return rate since the only respondent participated in the interview. Table 7 shows the summary of the response return rate.

Table 7 Return Rates of Instruments

Respondents	Sample Size expected	Respondents that participated	Percentage
School Head teachers	123	123	100.0
School senior teachers	123	123	100.0
Class eight pupils	2413	2413	100.0
County quality assurance and standards officer	1	1	100.0

Source: Researcher's data, 2020

The high response return rate was achieved due to administering clearly typed questionnaires, providing ample time to fill in the questionnaires and making regular follow ups to ensure completeness of the questionnaires. Moreover, the researcher conducted face to face interviews with the county quality assurance and standards officer. This was after an initial orientation to establish rapport and explaining the purpose of the study to the respondents. According to (Mugenda & Mugenda, 2008; Saunders, Lewis & Thornhill, 2012), a response return rate of at least 50% is acceptable in social sciences research.

4.3 Demographic Information of the Head Teachers

The primary school head teachers were targeted in this study since they are the administrators and are in charge of management of school resources. They ensure appropriate application of education resources to achieve academic objective of the school.

Table 8 Demographic Characteristics of School Head Teachers

Variables	Frequency	Percent
Gender		
Male	82	66.7
Female	41	33.3
Total	**123**	**100.0**
Professional/Educational Qualification		
Masters/PhD	39	31.7
BED	66	53.7
Diploma certificate	08	6.5
P1 Certificate	10	8.1
Total	**123**	**100.0**
Experience in the Office as Head of school		
0-2 years	13	10.6
3-5 years	71	57.7
6 and above years	39	31.7
Total	**123**	**100.0**

As shown in Table 8, out of the 123 school head teachers that participated in the study, 66.7% were male while only 33.3% were females. This implies that the gender balance in school head positions in government primary schools in Kisumu County had not yet been addressed. On education, the study found that majority of the respondents (53.7%) had Bachelor degree in education, 31.7% had either Masters degree or PhD, while only 8.1% and 6.5% had P1 certificate and diploma certificate respectively. Academic qualification was crucial for the study because it shows the level of training on administration and management, which was important for school head teachers for management of education resources for good academic performance. The study also established that most of the school head teachers at 89.4% had taken more than 3 years in management and leadership position, implying that they had rich knowledge on how educational resources influence academic performance of public primary schools in Kisumu County in Kenya.

4.4 Demographic Information of the Senior Teachers

School senior teachers were also targeted in this study since they were in charge of pupils academic performance and just like head teachers, they were also concerned with management of education resources for academic performance in public primary schools in Kisumu County in Kenya.

Table 9 Demographic Information of the Senior Teachers

Variable	Response	Frequency	Percent
Gender	Male	72	58.5%
	Female	51	41.5%
	Total	**123**	**100.0%**
Years in service as a counsellor	Less than 3 years	11	8.9%
	3-5 years	65	52.8%
	More than 5 years	47	38.2%
	Total	**123**	**100.0%**
Education Level	Masters	14	11.4%
	Degree	61	49.6%
	Diploma	20	16.2%
	P1 certificate	28	22.8%
	Total	**123**	**100.0%**

As shown in Table 9, out of the 123 senior teachers that took part in the study, more than half of the respondents at 58.5% were males, while 41.5% were females. This implies that the number of male senior teachers were slightly more than that of their female counterparts in public primary schools of Kisumu County. On years of experience, the study found that 52.8% of the senior teachers had taken more than 3-5 years in their leadership position as senior teachers, 38.2% had taken more than 5 years, while only 8.9% had taken less than 3 years. This shows that majority of the senior teachers had

taken longer time in their current positions and were informative on the relationship between education resources and academic performances in primary schools. On education, the majority of the respondents at almost half (49.6%) had bachelor degree, 22.8% had P1 certificate, 16.2% were diploma holders, while only 11.4% had masters degrees certificate.

4.5 Demographic Characteristics of Class Eight Pupils

The students were targeted in this study since the study revolved around them, hence were able to provide information on psychosocial determinants of religious fanatics as they influence social maladjustment among them in secondary schools. The information was sourced from form one to form four students.

Table 10 Demographic Characteristics of Class Eight Pupils

Variable	Response	Frequency	Percent
Gender	Male	1303	54.0%
	Female	1110	46.0%
	Total	**2413**	**100.0%**
Age Bracket	Less than 12 years	89	3.7%
	12 - 14 years	1896	78.6%
	Above 14 years	428	17.7%
	Total	**2413**	**100.0%**

The study found that the number of male pupils and that of female was almost levelling up with 54.0% representing males, while 46.0% were females. This shows that gender parity in education is almost being achieved as the ratio of boys to girls was almost balancing out. It is a good indication that enrolment of girls in these schools was good, to be in line with MoE (2013) *National Education Policy Framework*, that stress the need to achieve gender equality in education. The study also found that over three quarters of the respondents at 78.6% were between 12-14 years, while above 14 years were 17.7% and

those less than 12 years were only 3.7%. According to MoE (2013) on *National Education Policy Framework,* the age at which pupils are expected to commence primary education in Kenya is 6 years and are expected to be in class eight at the age of 14 years.

4.6 Trends of Academic Performance of Public Primary Schools Kisumu County

In Kenya, national examinations provide an indicator of achievement at the end of a cycle. The Kenya Certificate of Primary Education (KCPE) examination at the end of the 8-year primary school cycle is the first national examination in the school system. The national performance is used to gauge how effective teaching and learning was that year nationally, at county level, sub-county level and school level. At individual level this performance determines the type of secondary school the primary school graduate will join which to a very great extent influences further upward mobility with regard to further education, careers and occupations (Onderi & Croll, 2008, Wasanga & Kyalo, 2007). From the document analysis, data available from the Kenya National Examinations Council (KNEC) shows that the mean performance from 2012 to 2018 was at a low of 240.45% in 2012 and the highest being 265.65% in 2016 indicating fluctuating performance in Kisumu county. Performance in KCPE is of utmost concern to all stakeholders in the Kenya education system. The demand to improve mean scores weighs heavily on school heads and the teachers. The demand from parents and the government for teachers and schools to improve their performance, and for the government to provide sufficient teaching, human, material and physical resources reverberates across the country every year after the results are released (Nyangosia, 2011). Table 6 shows the trend in academic performance in Kisumu County from 2012 to 2018.

Table 11: Trends in Academic Performance, 2012 – 2018 in Kisumu County

	Subjects in KCPE AND THE MEAN SCORE					
YEAR	**MATHS**	**ENGLISH**	**KISWAHILI**	**SOCIAL STUDIES**	**SCIENCE**	**MEAN**
2012	53.08	53.60	45.68	51.11	54.29	**240.45**
2013	53.93	55.42	47.88	53.96	53.93	**258.00**
2014	54.11	54.92	47.72	54.29	54.58	**262.25**
2015	52.54	52.82	47.77	53.00	53.53	**258.18**
2016	49.76	55.21	52.72	53.61	53.62	**265.65**
2017	47.32	53.4	51.35	52.04	51.82	**264.29**
2018	51.12	54.81	48.64	52.18	52.32	**263.01**
Overall Average	**51.56**	**54.38**	**48.97**	**53.074**	**53.28**	**258.47**

The performance of mathematics has been fluctuating from 53.08% in 2012 to a high of 54.11% in 2014. The performance dropped in 2015 to 52.54% and has been dropping to 47.32% in 2017. It improved slightly to 51.12% in 2018. The average mean performance was at 51.56%. The performance of English has also been fluctuating. The performance rose from 53.6% in 2012 to 55.60% in 2013 before fluctuating to 54.92% in 2014 and 52.82% in 2015. The performance improved to 55.21% then to 54.81 in 2018. The average mean performance was 54.38% which was above average.

The performance of Kiswahili improved from low of 45.68% in 2012 to a high of 52.72% in 2016. It fluctuated between 2017 and 2018 with mean performance of 51.35% and 48.64% respectively. The average performance was 48.97%. Though the performance was improving it was still below average. The performance of Social studies has been fluctuating from 51.11% in 2012 to 54.29% in 2014. It dropped to 53.00% in 2015 before dropping further to 52.18% in 2018. The average performance was 52.88% and was above average. The performance of science has been fluctuating from 54.29% in 2012 to a low of 51.82% in 2017. The performance improved to 52.32% in 2018. The average performance 53.07% and was above average.

The average mean mark for the Kisumu County improved from 260.17 out of 500 in 2012 to 265.83 in 2014 then dropped and fluctuated from 259.25 in 2015 to 264.91 in 2016. However, it dropped to 255.92 and 259.16 in 2017 and 2018 respectively. The average performance from 2012 to 2018 for Kisumu County is 258.47. The trend in performance has been fluctuating as shown in the Figure 4.1on page 42. These results were consistent with that of Wabugu (2013) in his study of Embu North District in Kenya which found that indeed primary schools exhibited poor academic performance in various parts of the country.

According to Wambugu (2013), in 2009 Kairuri Zone had a mean score of 227.30 which declined to 211.65 out of a possible 500 marks in 2013. Certainly, these results were below average and required urgent intervention measure to improve the academic performance. Despite efforts by the government like FPE, employment of more teachers and feeding programmes to improve access to education, the education sector in Embu still continued to face myriads of problems, especially declining academic performance in Kenya Certificate of Primary Education(KCPE) in public primary schools.

The findings were also consistent with the findings of Makuto (2014) in Teso North District. According to performance report available in the sub-county education office, public schools in Teso North sub-county have been performing below average in the KCPE examination since 2012. None of the KCPE candidates from the sub-county was ranked among the top 100 in the nation in the recent years. Out of the seven sub-counties in Teso, Teso North sub-county was ranked last and the only one with below average mean score. The data reveals that KCPE performance in the sub-county was fluctuating and below average.

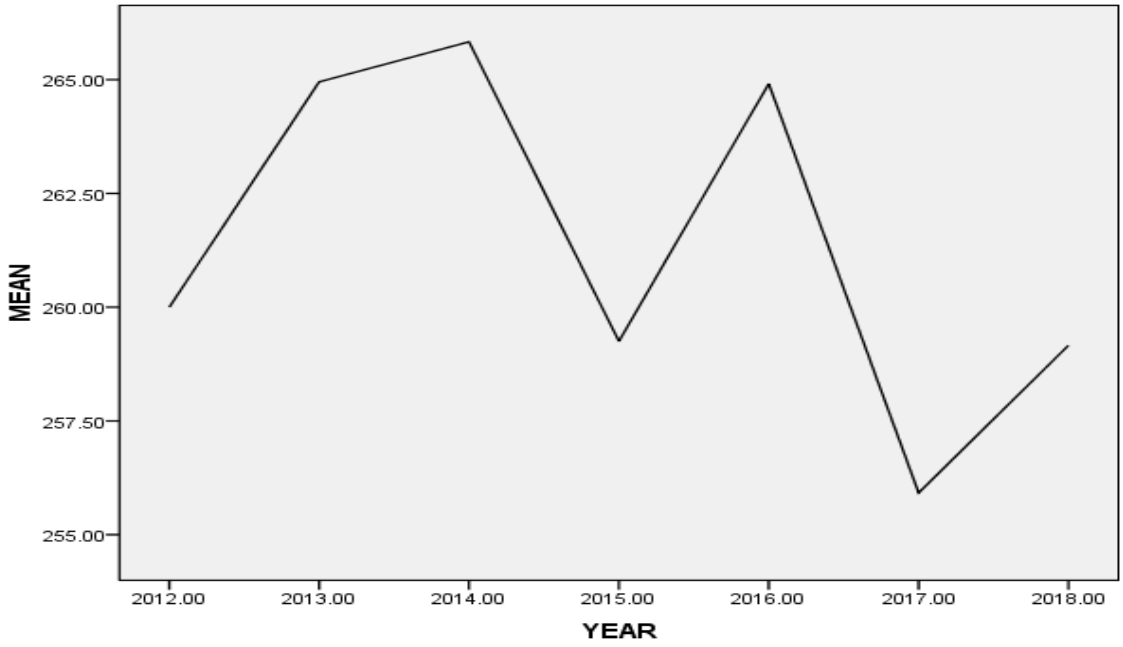

Figure 4.1: Mean Average Performance in KCPE in Kisumu County from 2012 – 2018

4.6.1 Headteachers View on Academic Performance

The core purpose of head teacher is to provide professional leadership and management in a school. This promotes a secure foundation from which to achieve high standards in all areas of the school's work. To gain this success a head teacher must establish high quality education by effectively managing teaching and learning and using personalized learning to realize the potential of all learners. Head teacher must establish a culture that promotes excellence, equality and high expectations of all pupils. He/she is the leading professional in the school accountable to the governing body. He/she has to provide vision, leadership and direction for the school and ensures that it is managed and organized to meet its aims and targets. The head teacher, working with others is responsible for evaluating the schools performance to identify the priorities for continuous improvement and raising standards; ensuring that resources are effectively and

efficiently used to achieve the schools aims and objectives and for the day-to-day management, organization and administration of the school. Table 7 shows headteachers views on various attempts to improve academic performance in Kisumu County:

Table 12: Head teachers view on academic performance

STATEMENTS	VF	F	LF	R	M
Do you ensure CATS are given to students	100(81)	23 (19)	0	0	3.8
Do you facilitate provision of textbooks	30 (24)	58 (47)	32(26)	3 (2.4)	2.9
Do you facilitate availability of teaching/learning resources	38 (31)	35 (28)	29 (24)	21 (17)	2.6
Do you ensure good time management in the school	46 (37)	26 (21)	32 (27)	19 (15)	2.8
Do you check scheme of work	47 (38)	48 (39)	25 (20.3)	3 (2)	3.1
Do you hold staff meetings to review academic performance	101(82)	22 (18)	0	0	3.8
Do you check syllabus coverage	87 (71)	20 (16)	10 (8)	6 (5)	3.5
Do you check pupils notes	57 (46)	43 (35)	10 (8)	13 (11)	3.2
Do you check staff attendance Register	93 (76)	22 (18)	5 (4.06)	3 (2.4)	3.7
Overall Mean					**3.3**

VF -Very Frequently, **F** – Frequently, **LF** - Less Frequently, **R** - Rarely

Interpretation of mean ratings:

1.00 – 1.44 = very low;
1.45 – 2.44 = low;
2.45 – 2.99 = moderate;
3.00 – 3.44 = high;
3.45 – 4.00 =very high

The head teachers were in agreement that they ensure that CATs are given to learners. The mean rating was 3.8 indicating very high. Head teachers (81%) indicated they do monitor CATs very frequently while 19% indicated that they do so frequently. The findings indicate that head teachers do ensure that CATs are given to learners. The headteachers do moderately facilitate provision of textbooks in primary schools. The findings from the study show that 24% of headteachers very frequently facilitate

provision of textbooks, 47% do so frequently, 26% do so less frequently while 2.4% do so rarely. Provision of books in the school was rated at 2.9 (moderate) indicating that in some instances textbooks were not being provided for learners.

Provision of teaching and other learning resources had a mean rating of 2.6 which was moderate. Headteachers (31%) indicated that they do this very frequently, 28% indicated they do this frequently and 24% facilitates availability of teaching and learning materials less frequently while 17% rarely provides learning facilities. Checking of scheme of work by headteacher had high ratings at 3.1 while holding of staff meetings to review academic performance had very high rating of 3.8. This was an indication that the headteachers frequently reviewed academic performance. Checking syllabus coverage had a mean rating of 3.5 and pupil's notes had a rating of 3.2. Staff attendance register had a mean rating of 3.7 an indication of very high opinion on regular checking of teacher presence in the school.

Time management in school plays a key role in academic performance, 37% of the headteachers indicated that they ensure good time management very frequently, 21% frequently and 27% less frequently while 15% rarely monitor time management. The mean rating was 2.8(moderately). By implication 58% of headteacher are focused on proper time management which has an effect on time management while 42% are less focused on time management and this may be a source of fluctuation in academic performance.

Scheme of work play a crucial role in lesson delivery and planning. Headteachers (38%) very frequently check schemes of work, 39% frequently, and 20.3% less frequently while

2% rarely. The mean rating was 3.1(high). This was an indication that most head teachers check schemes of work and therefore this has an effect on academic performance. Syllabus coverage is important in ensuring pupils perform well in the end of term exams. Head teachers (71%) very frequently check the syllabus coverage, 16% frequently check, 8% do check less frequently while 5% rarely check syllabus coverage. Mean rating was 3.5(high). The implication was that in most primary schools in Kisumu County, headteachers do check syllabus coverage.

Pupils' notes are important for the purpose of learning process and recall of previous lesson attendance. Headteachers (46%) do check pupils notes very frequently, 35% do so frequently, 8% do so less frequently while 11% do so rarely. The mean rating was 3.2 (high). Staff attendance register and holding of staff meetings to review academic performance are important for fostering good academic performance, 82% of headteachers indicated that they review academic performance while 76% also checked staff attendance register. Headteacher (18%) do so frequently by holding staff meetings to review academic performance and also checking staff attendance register. The mean rating was 3.8 and 3.7 respectively (very high). The overall mean was at 3.3 indicating a high involvement of the headteachers in the improvement of pupils' academic performance.

4.7 Relationship Between Financial Resources and Pupils Academic Performance

The first study objectives sought to establish the relationship between financial resources and pupils' academic performance in Kisumu County. The relationship between financial resources and pupils' academic performance was determined by exploring the views of head teachers, teachers and pupils. Documents analysis was also reviewed to ascertain

some facts for the purpose of illuminating the study. The views of the respondent were collected using a four point scale (4= strongly agree, 3 = Agree, 2 = disagree, 1 = strongly disagree).

4.7.1 Government Disbursement of funds to Primary School

FPE is a joint responsibility. The Government considers its provision as central to poverty reduction and FPE is being implemented in the spirit of partnership. As the government shoulders other roles like paying teachers' salaries, parents or guardians are still required to meet the following costs: examination fee for class 8, school meals, school uniform, healthcare boarding facilities and transport to and from school.

In order to facilitate proper management and use of Free Primary Education funds, it is mandatory for schools to open and maintain bank accounts. The Government, which is the main source of funds for FPE, requires each school to operate two bank accounts, i.e. a SIMBA account and a General Purpose Account (GPA). The schools may operate other accounts for other donations or grants. The Government disburses into the Simba Account Ksh.850 per pupil every year to all public primary schools in Kenya. This money is to be used to finance textbooks, exercise books, pens/pencils, supplementary reading and reference materials, registers, chalks, dusters, charts and wall maps to assist in the learning process. The Government disburses into the General Purpose Account Ksh.506 for each pupil every year in every public primary school. This money finances salaries and wages of subordinate staff, repairs, maintenance and improvement (RMI), support for co-curricular activities, quality assurance services, electricity and water provision, postage, telephone and box rental, travel and contingency. Table 13 shows total breakdown of funds disbursed to schools per pupil:

Table 13: Total Breakdown of Funds Disbursed in Primary Schools

Item	Amount
Simba A/C	
Tuition	460.00
Textbook	310.00
Supplementary Textbooks	55.00
3 pencil	15.00
Dusters, Chalk and Registers	5.00
Illustrative Charts	5.00
General Purpose A/C	**850**
Support Staff Wages	112.00
Maintenance	227.00
Activity	43.00
Quality Assurance	29.00
Local Travel and Transport	57.00
Electricity	10.00
Postage, Telephone and Box Rental	22.00
Contingency	6.00
Total	**506**

Table 13 indicates that highest disbursement goes to tuition at shs 460 followed by textbook at ksh 310. Maintenance and support staff wages follows at Ksh 227 and Ksh 112 respectively. The least amount, ksh 5 goes to dusters, chalks, registers and illustrative charts. When pupils were asked if they pay additional fee in their schools, all the respondents agreed that the school heads usually ask for additional payments in school. This shows that most of the public primary schools had inadequate financial resources to finance their school programs. Similarly, Kones (2012) found that failure to adequately finance school budgets will affect syllabus coverage and academic performance of the school. The study is in agreement that provision of quality education in public schools is partly measured by performance in KCPE exams, availability of instructional materials and quality teachers. These factors are directly influenced by the total fees collected and arrears.

4.7.2 Income Generating Activities by Primary Schools

The study assessed whether schools had income generating activities. The results show that 10% of primary schools had income generating activities while 90% had no income generating activities as presented in the table on page 80 for the schools with income generating activities, the study found out that majority were in form of subsistence farming especially schools in rural area while schools in urban areas had school bus project which also acted as a source of revenue for the school. Table 9 shows various types of income generating activities.

Table 14: Income Generating Activities

IGA	Frequency	Percentage (%)
Bus hire	5	10.6
School farming	10	21.3
Hall hire	20	42.6
Livestock rearing	12	25.5
	47	**100**

Table 14 implies that only 47 schools had IGAs while 76 schools did not have IGAs. Out of the 47 schools that had IGAs, hall hiring was at 42.6%, followed by livestock rearing at 25.5%, farming and bus hire was at 21.3% and 10.6% respectively. It was important to inquire about the amount realized from these income generating activities (See Table 15).

Table 15: Average of total amount from Income Generating Activities

N0. of schools	2017	2018
47	50,000	70,000

Table 15 implies that only 47(38.21%) schools benefited from IGAs out of the 123 schools. Implying that schools with no IGAs performed poorly compared to those with IGAs.

Table 16: Reasons for not having IGAs

Item	Frequency	Percentage (%)
Insecurity	8	10.53
Corruption	2	2.63
Lack of funds	14	18.42
Lack of land	15	19.74
Lack of personnel	2	2.63
Local politics	18	24.0
Arid lands	7	9.21
Lack of entrepreneurial skills	10	13.15
TOTAL	**76**	**100**

Table 16 reveals that 18.42% (14) of the schools with no IGAs lacked funds for investment, 13.15 %(10) lacked entrepreneurial skills while 24.0% (18) cited local politics as hindering them from investment. Most of the reasons fronted above escalate the inadequacy of financial resources in primary schools in the Kisumu County. Since 61.80%(76) of schools did not have income generating activities, they relied heavily on the government funding and this by implication leads to poor pupils' performance.

4.7.3 Head teachers' and Senior Teachers' Opinion on Financial Management and Pupils' Academic Performance

The head teachers and senior teachers were asked their opinion on the financial position of the school. The results are shown in Table 17 .

Table 17: Headteachers' and Senior Teachers' Opinion on Financial Management and Pupils' Academic Performance in Kisumu County

Statement		SA	A	D	SD	MEAN
The money given by the	H	8(6.5)	12(9.8)	87(70.7)	16 (13)	2.10
government is adequate	ST	45(36.6)	34(27.6)	30(24.4)	14 (11.4)	2.89
To improve academic	H	91(74)	17(13.8)	10(8.1)	5(4.1)	3.58
performance, students pay extra levy	ST	48(39)	40(33)	15(12)	20(16)	2.94
To motivate teacher pupils are	H	97(79)	26(21)	0	0	3.8
charged some extra levy	ST	98(80)	25(20)	0	0	3.8
Pupils are sent home from time to	H	87(70.7)	13(10.6)	23(18.7)	0	3.6
time for school levy	ST	98(80)	25(20)	0	0	3.8
Classes are sometimes lost when	H	48(39)	41(33)	17(14)	18(15)	2.98
pupils go home for extra levies	ST	50(40.6)	36(29.3)	14(11.4)	23(18.7)	2.92
School has an income generating	H	12(9.8)	15(12.2)	75(61)	21(17)	2.14
activities to finance its activities	ST	10(8.13)	15(12)	67(54.4)	31(25.2)	2.03
payment of extra levies affects	H	40(33)	15(12)	48(39)	20(16)	2.94
pupils performance in this school	ST	55(45)	38(31)	34(28)	14(11)	3.4
Payment of BOM teachers pose a	H	87(70.7)	13(10.6)	23(18.7)	0	3.52
serious challenge to this school	ST	91(74)	12(9.7)	11(9)	9(7.3)	3.50
Parents in this school participate	H	56(46)	35(28)	21(17)	11(9)	3.1
actively in financing activities	ST	59(48)	32(26)	27(22)	5(4)	3.18
Overall mean	H					**3.08**
	ST					**3.50**

Key: SA-Strongly Agree, A- agree, D- disagree, SD- Strongly Disagree

Interpretation of the means:

1.00 – 1.44 = Strongly Disagree

1.45 – 2.44= Disagree

2.45 – 3.44=Agree

3.45 – 4.00 =Strongly Agree

The table shows that 83.7% of headteachers either disagreed or strongly disagreed that the funds given by the government is adequate and the mean rating was 2.10 which implies

disagree. However 64.2 percent of teachers agreed or strongly agreed that funds given by the government was adequate. The mean rating for teachers' was 2.89 implying agree.

Both headteachers and senior teachers (100%) strongly agreed or agreed that in order to motivate teachers, pupils have to be charged extra levies. The mean rating of 3.8 for both implies strongly agreed. This informs that motivation of teachers' influences academic performance. Pupils are sent home to look for extra levies. This opinion was in agreement with head teachers' position at 81.3% with a mean rating of 3.6. All teachers at 100% were in agreement that learners are sent home for extra levies. The mean rating for teachers was 3.8 which is very high. This affects learners performance. The implication is that classes are sometimes lost when learners are sent home with mean ratings of 2.98 and 2.92 for headteachers and teachers respectively.

Payment of extra levies affects learners' performance in various primary schools. The mean rating was 2.94(moderate) and 3.58(high) for headteachers and teachers respectively. The payments of BOM teachers pose a serious challenge to school performance. This had a mean rating of 3.52 and 3.50 for headteacher and teacher respectively. Due to staff shortage, most schools embark on payment for BOM teachers who are employed in primary schools. The money is sourced from parents who pay required fees. Parents participate in financial activities in primary schools as 74% of head teachers and 74% of teachers were in agreement. The mean rating was 3.1 and 3.18 respectively.

In summary, the headteachers and teachers had a mean rating of 3.08(high) and 3.50(very high). The implication was that proper financing of school affects pupils' academic performance in primary schools.

4.7.4 Pupils Response on Financial Resources and Pupils' Academic Performance

Table 18 shows results of the opinion of pupils on financial management and pupils' performance.

Table 18: Pupils Questionnaire on Financial Resources and Pupils Academic Performance

Statement	SA	A	D	SD	Mean
Pupils pay additional fee to improve academic performance	**1930(80)**	**241(10)**	**145(6)**	**97(4)**	**3.7**
To motivate teacher pupils are charged some levy	**1448(60)**	**555(23)**	**314(13)**	**97(4)**	**3.4**
Pupils are sent home from time to time for school levies	**1978(82)**	**193(8)**	**121(5)**	**121(5)**	**3.7**
Classes are sometimes lost when pupils go home for levies	**2027(84)**	**144(6)**	**144(6)**	**97(4)**	**3.6**
Payment of extra levies affects pupils' performance in this school	**2075(86)**	**97(4)**	**193(8)**	**48(2)**	**3.7**
Parents in this school participate in financing activities	**1592(66)**	**579(24)**	**193(8)**	**48(2)**	**3.5**
Pupils participate in farming and other activities generating income for school	**1544(64)**	**603(25)**	**193(8)**	**72(3)**	**3.5**
Overall mean					**3.6**

KEY: SA-Strongly Agree, A- agree, D – disagree, SD - Strongly Disagree

Interpretation of the means:

1.00 – 1.44 = Strongly Disagree

1.45 – 2.44= Disagree

2.45 – 3.44=Agree

3.45 – 4.00 =Strongly Agree

The table shows that(2171) 90% of pupils either strongly agreed or agreed that they pay extra levies to improve academic performance. Only(244) 10% disagreed. The mean rating was 3.7 implying strongly agree. To motivate teachers, pupils agreed that they pay extra levies. The mean rating was 3.4. This indicated that about(2001) 83% of pupils were of the opinion that they are charged extra levies to motivate teachers. Only (2171) 90% of

pupils were in agreement that they are sent home for extra levies. The mean rating was 3.7. This may have an implication on academic performance of learners. Absence from class has implication on pupils' academic performance since a lot of what is taught is missed by the absent learner. The learners were in agreement that sometimes classes are lost when they go home for extra levies, the mean rating was 3.6. There was agreement by pupils that fee payments affect their academic performance. The mean ratings was 3.7(high) and 90% of learners were in agreement that this affects their academic performance. Pupils (90%) were in agreement that parents in primary schools participate in financing their education, only 10% disagreed and the mean rating was high at 3.5.

4.7.5 Null Hypothesis 1

H_{01}: *There was no statistically significant relationship between financial resources and pupils' academic performance in Kisumu County*

To establish whether there was any significant relationship between financial resources and academic performance among the youth in Kisumu County, a Pearson Correlation analysis was conducted between the two variables. Since data for financial resources were measured on ordinal Likert level for each item, it was important to obtain continuous data to facilitate performance of correlation analysis. Thus, summated scores for each respondent were obtained for each of the two scales. The corresponding scores for each respondent were used as data points for the 246 participants (school head teachers and senior teachers).

The null hypotheses were to be tested at 0.05 significance/alpha level (α). The test statistic is converted to a conditional probability called a *p*- value. If $p \leq \alpha$, the null

hypothesis is rejected, meaning that the observed difference is significant, that is, not due to chance. However, if the *p*- value will be greater than 0.05(i.e., $p>\alpha$), the null hypothesis were to be rejected (we fail to reject the null hypothesis), meaning the observed difference between the variables is not significant. The correlation output is presented in Table 19.

Table 19 Correlation output for financial resources and pupils' academic performance

		Financial resource	Pupils' academic performance
Financial resources	Pearson Correlation	1	.635**
	Sig. (2-tailed)		.000
	N	246	246
Pupils' academic performance	Pearson Correlation	.635**	1
	Sig. (2-tailed)	.000	
	N	246	246

**. Correlation is significant at the 0.05 level (2-tailed).

The findings in Table 19 show that there is a strong positive relationship (r = .635) between financial resources and pupils' academic performance in Kisumu County which was statistically significant ($p < 0.05$). Since the significance (p value) of Levene's test (0.003) is less than α level (0 .05) then we reject the null hypothesis that the variances of the two groups are equal, implying that the variances are not equal. The findings show that p- value is less than the significance level (0.05). That is, $0.00 < 0.05$. We therefore reject the null hypothesis, and the alternative hypotheses accepted. This implies that statistically the more school has financial resources, the more likely pupils will register good performances in those schools.

4.7.6 Regression Output for financial resources and pupils' academic performance

To establish the relationship between financial resources and pupils' academic performance in Kisumu County, regression analysis was conducted between the variables. Data collected was converted to continuous data by summating the individual item scores in the scale for each respondent. Data obtained from the 246 (head teachers and senior teachers) respondents provided 246 data points. The regression output is presented in Table 20 .

Table 20: Regression Output for financial resources and pupils' academic performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.671[a]	.450	.448	1.761

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.965	2	319.9	348.241	.000[b]
	Residual	288.293	244	3.418		
	Total	299.258	246			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	48.61	1.864		14.16	.000
	Financial resources	.654	.111	.765	4.341	.000

a. Dependent Variable: Mean academic performance

b. Predictors: (Constant), financial resources

The study found that financial resources determining pupils' academic performance explain up to 44.8% (Adjusted R square = .448) of variance in the mean academic performance. The model was found to be statistically significant as F (2, 244) = 348.241 [$p < .05$]. This shows that from regression, school financial resources is able to account for 44.8% of variance in the academic performance.

The variables were modelled to be connected by the linear regression equation in the form:

$$Y = B_0 + B_1X_1 + \varepsilon$$

Where Y is Mean academic performance of the pupils, B_0 is Coefficient of constant term, $B_1$is coefficient of financial resources determining academic performance, X_1 is financial performance and ε is error term. Thus, replacing the coefficients of regression, the equation becomes;

$$Y = 48.61 + 0.654X_2$$

This shows that, when financial resources change by one positive unit, academic performance among the pupils in Kisumu County increases by 0.654. Thus, school financial performance positively affects pupils' academic performance to a magnitude of 0.654 as indicated by the main effects.

During the interview with the CQASO, it was found that school financial resources influence funding of education programs in the school, hence overall academic performance of the school. For instance, the CQASO asserted that;

> *Adequate financial resources are needed in the school for smooth running of the school programs and procurement of school facilities such as textbooks, laboratory equipment and workers salary, among others, and appropriate application of these resources has an overall positive effect on academic performance of the school.* (CQASO Interview, 2/2/2020)

This shows that school financial resources have a role to play on the academic performance of the learners. These sentiments were also echoed by the pupils during one of the focus group discussion, when one of them also claimed that;

> *When our school has adequate finance, we are able to buy more learning materials such as textbooks and other instructional materials that are very vital for good academic achievement of the school. With adequate finance, the school is able to employ more assistant teachers, that would help in*

improving academic performance of the pupils and the learners (FGD, 15/2/2020)

These statements made by the CQASO and the pupils concurred by those of Sherlock (2011), who also confirms that funding has a positive impact on academic performance, and for schools to do well in examinations, more funds should be made available in order to buy the necessary inputs such as text books and other instructional resources. Charles (2014) also found that for $100 increase in revenue limit per student leads to a 0.04point increase in the percentage of student scoring above the 50th Percentile in mathematics, a 0.22 to 0.026 increase from the cross-sectional estimates. This also leads to a 0.01point increase in the percent of student scoring above 50th percentile in reading, a 0.30 to 0.32 increase in the cross-sectional estimates. Similarly, Abagi (2017) argued that while teachers were crucial for quality education, their contribution will be incomplete if there are no important inputs like textbooks. The textbooks can be purchased if there are funds in schools.

4.8 Relationship Between Human Resources and Pupils' Academic Performance

The second study objective sought to examine the relationship between human resources and pupils' academic performance in Kisumu County. The relationship was determined by exploring the views of head teachers, teachers and pupils. Document analysis was also done to ascertain some facts for the purpose of illuminating the study. The views of the respondent were collected using a four point scale (4= strongly agree, 3 = Agree, 2 = disagree, 1 = strongly disagree). The study tested the null hypothesis "*There was no statistically significant relationship between human resources and pupils academic performance*", using Pearson moment correlation.

4.8.1 Head teachers' Response on the Human Resource in Relation to Pupils' Academic Performance

The response of the head teachers on the question of human resources is shown in Table 21.

Table 21: Head teachers' Response on the Relationship between Human Resource and Pupils' Performance

Statements	SA	A	D	SD	Mean
School has enough teachers	**2(1.6)**	**12(9.8)**	**78(63.4)**	**31(25.2)**	**1.88**
School has experienced teachers	**5(4.1)**	**43(35)**	**56(45.5)**	**19(15.4)**	**2.28**
Does the working environment inspire teachers to perform	**35(28.5)**	**58(47.1)**	**23(18.7)**	**7(5.7)**	**2.85**
Teachers are available for consultation	**58(47.2)**	**51(41.5)**	**9(7.3)**	**5(4.1)**	**3.31**
Teacher are occasionally transferred to other school and replaced immediately	**13(10.6)**	**45(36.6)**	**56(45.5)**	**9(7.3)**	**2.50**
Whenever teachers go on transfer it affects academic performance	**66(53.7)**	**34(27.6)**	**10(8.1)**	**13(10.6)**	**3.24**
Teachers find time to revise assignment	**55(44.7)**	**46(37.4)**	**13(10.6)**	**9(7.3)**	**3.20**
Headteacher monitor teacher classroom attendance	**61(49.6)**	**46(37.4)**	**13(10.7)**	**3(2.4)**	**3.34**
Teachers perform well in their subjects	**52(42.3)**	**48(39)**	**13(10.7)**	**10(8.1)**	**3.15**
Teachers inspire pupils to perform well in their teaching subjects	**55(44.7)**	**50(40.7)**	**12(9.8)**	**6(4.9)**	**3.25**
Teachers attend lessons as scheduled in the timetable	**87(70.7)**	**10(8.1)**	**19(15.4)**	**7(5.7)**	**3.45**
Teachers sometimes miss lessons	**88(71.5)**	**12(9.8)**	**19(15.4)**	**4(3.2)**	**3.50**
MEAN					**2.99**

The head teachers disagreed (63.4%) that primary schools had enough teachers while 25.2% strongly disagreed that there were enough teachers. Only 10% agreed that there were enough teachers in schools in Kisumu County. The mean rating was low at 1.88. Primary schools in Kisumu County had 39.1% experienced teachers, while majority of

the respondents at 59.9% of the headteachers either disagreed or strongly disagreed that they had experienced teachers with a mean rating being 2.28(moderate). Experienced teachers enhance good pupils' academic performance and this also concurs with the findings of most of the studies done. For instance, some literature revealed that a number of teacher variables which include years of teaching experience, level of educational attainment or academic qualifications, teacher development programmes, availability of qualified teachers, teacher-student ratio, teacher attitude, degree of job satisfaction, motivation and salary affect students' learning outcomes (Ewetan & Ewetan, 2015; Daso, 2013; Akpo, 2012; Odiri, 2011; Ewetan, 2010; Akinsolu, 2010). Other literatures also found that a number of teacher variables which include teacher years of experience, teacher academic attainment or qualifications, teacher-student ratio, and teacher development programmes had no significant influence on students" academic performance (Ewetan & Ewetan, 2015; Yara and Surumo, 2012; Ayodele and Ige, 2012).
The working environment in Kisumu County had a mean rating of 2.85. This was moderate since 75.6% of the head-teachers agreed or strongly agreed that the working environment inspired teachers to perform. However 24.4% disagreed or strongly disagreed that working environment was conducive for teachers to perform.

Some parts of rural areas were in hardship areas and therefore not conducive for learning. Teachers' consultation with learners is an important ingredient towards learners' academic performance. The head teachers (89%) indicated that most teachers were available for consultation. However 11% of the headteachers disagreed or strongly disagreed that teachers were available for consultation, the mean rating was 3.31 indicating a high opinion of head teachers in regard to consultation. The headteachers

(82.1%) strongly agreed or agreed that teachers assisted the learners in revision and assignment while only 17.9% disagreed or strongly disagreed. The mean rating was 3.20 indicating a high opinion. Transfer of teacher and their replacement greatly affect academic performance. 47.2% of headteachers either strongly agreed or agreed that teachers are transferred and replaced, while 52.8% disagreed or strongly disagreed that they are replaced immediately. The mean rating was 2.5 which was moderate.

Teachers perform well in their subjects and inspire pupils to perform well. This was the opinion of over 80%of headteachers. Less than 20% of headteachers disagreed. The mean rating was 3.15 and 3.25 respectively. These are high opinions. This may be due to monitoring and evaluation function of headteachers. They monitor classroom attendance and about 87% of headteachers agreed that they monitor teachers in class while only 13% do not play this role and hence the mean rating was 3.34 an indication of high opinion of the headteachers. Attendance of lessons was high. According to headteachers, about 78% were in agreement that most teachers attended lessons as per time tabled and as scheduled. Only 21% were in disagreement. However 80% of headteachers agreed that teachers sometimes miss lessons while 18% disagreed. The mean rating was 3.5(high). This shows that teachers play a great role in pupils' academic performance and this is greatly influenced by their characteristics. Similarly, Akinsolu (2010) investigated teachers and students' academic performance in Nigerian secondary schools and its implications for planning and found that teachers' qualifications, years of experience, and teacher student ratio were significantly related to students' academic performance. Abu and Fabunmi (2005) also found that there is a significant and positive relationship

between teacher's qualification, age, and years of experience, teacher-learners ratio, and adult learners' academic performance.

4.8.2 Senior Teachers' Response on Human Resources in Relation to Pupils' Academic Performance

The response of senior teachers on the relationship between human resource and pupils' academic performance is shown in Table 22

Table 22: Senior teachers' response on human resource in relation to pupils' academic performance

Statements	SA	A	D	SD	Mean
The working condition in this school is suitable for teaching	12(10)	1(1)	5(4)	105(85)	1.33
The remuneration of teachers is not adequate	111(90)	2(2)	2(2)	8(6)	3.75
Given opportunity, i would transfer to another school	74(60)	12(10)	12(10)	25(20)	3.10
The school has enough teachers	12(10)	12(10)	12(10)	87(70)	1.59
Parents in this school are involved in the academic performance	12(10)	25(20)	74(60)	12(10)	2.30
I am satisfied with my work	61(50)	25(20)	12(10)	25(20)	2.99
My workload is too much for me to handle	92(75)	25(20)	2(2)	4(3)	3.67
Given opportunity I would upgrade my professional qualification	111(90)	6(5)	2(2)	4(3)	3.82
I don't have time to prepare for my lessons in advance	74(60)	25(20)	12(10)	12(10)	3.40
I am motivated to do my work	64(52)	26(21)	8(7)	25(20)	3.05
I am satisfied with my current remuneration	2(2)	4(3)	2(2)	115(93)	1.13
My working environment is not conducive	74(60)	25(20)	18(15)	6(5)	3.36
Overall mean					**2.79**

The working conditions were not suitable for teaching. This was opinion of 89% of teachers. Only 11% agreed that the schools were suitable for teaching while 92% of the teachers agreed that remuneration was not adequate and hence no motivation**.** Transfer to

another school would be a priority for most teachers as 70% of teachers were of this opinion and only 30% would remain in their current station. Teachers (80%) agreed that most primary schools lacked enough teachers while 70% of the teachers agreed that they are satisfied with their work in the current station. However 30% of the teachers were not satisfied in their current stations. A similar study by Mutugi (2014) on factors affecting syllabus coverage in secondary schools in Langata district Nairobi revealed that 37.7% of the teachers were handling bigger classes which led to potential delay on syllabus coverage.

Teachers' workload has remained a challenge due to nature of subjects being taught in the primary schools as 95% of the teachers' sampled either strongly agreed or agreed that there was too much to be handled and this constituted a high workload. Only 5% were of contrary opinion. Workload determines the teacher behavior and quality of teaching. A similar view was reported by Lawrence, Kleinhenz, Bearis and Wilkinson (2005), in a research study on how the work of teachers could be more effectively structured to support effective teaching and learning in relation to workload, found out that high workload affected teacher quality.

Also 95% of the teachers agreed that given an opportunity, they would upgrade their professional qualification whereas only 5% had contrary opinion. Preparation for the lessons was a challenge for teachers as 80% of the teachers do not prepare for the lessons in advance and only 20% were of contrary opinion. This may have a negative effect on academic performance. Unprepared teacher is not able to deliver adequate subject content

as 73% of teachers agreed that they are motivated while 27% were of contrary opinion. A motivated teacher works better with an aim of improving performance.

4.8.3 Pupils, Response on Human Resource in Relation to Pupils' Academic Performance

The pupils' response on the relationship between human resources and pupils' academic performance is shown in Table 23.

Table 23: Pupils' Response on Human Resource in Relation to Pupils' Academic Performance

Statements	SD	D	A	SA	Mean
The school has enough teachers for all subjects	2172(90)	97(4)	72(3)	72(3)	3.81
The school asks pupils for money to pay teachers	2172(90)	97(4)	72(3)	72(3)	3.81
The performance of teachers is not sufficient	2051(85)	120(5)	97(4)	145(6)	3.68
Teacher do not cover syllabus in time for national exams	2292(95)	72(3)	24(1)	24(1)	3.92
Teachers are available for consultation	1448(60)	314(13)	410(17)	241(10)	3.23
The workload of teachers is too much for them	1544(64)	603(25)	193(8)	72(3)	3.5
Teachers are occasionally transferred to other schools affecting academic performance	97(4)	24(1)	120(5)	2172(90)	1.19
The school replaces transferred teachers immediately	120(5)	49(2)	72(3)	2172(90)	1.22
The working environment is not conducive for teaching	120(5)	49(2)	72(3)	2172(90)	1.22
Sometimes teachers miss lessons	579(24)	290(12)	193(8)	1351(56)	2.04
Teachers motivate us to do classwork	48(2)	145(6)	48(2)	2171(90)	1.2
Sometimes we miss lessons because of various reasons	1085(45)	675(28)	410(17)	241(10)	3.08
	482(2)	723(30)	482(20)	723(30)	2.4
Overall Mean					**2.86**

According to 94% of pupils, primary schools have enough teachers for all the subjects. However, only 6% were of contrary opinion. Pupils (99%) agreed that they pay extra levies for motivation to teachers. It was noted that despite the payments, 90% of learners agreed that the performance of teachers is not of quality. Pupils also agreed that coverage of syllabus was a challenge for most of the teachers as 98% of the pupils agreed that teachers rarely covered the syllabus in time for national exams. Coverage of syllabus is very fundamental for good academic performance of the pupils and this highly depends on the level of teacher preparedness. However, effective preparedness may be negatively hurt by unconducive environment such teacher workload. This was also supported by Koech, Tikoko and Chemwei (2014) who also indicated that a number of schools' factors are responsible for poor service delivery among the teachers for god academic achievement. This includes heavy workload and non – payment for extra – work hours leading to high teacher turnout and poor performance.

Most teachers are available for consultation. However, teachers are occasionally transferred to other schools and this does affect pupils' performance as 95% of pupils disagreed to this opinion while 5% were of the opinion that performance is affected by transfer of the teachers. Pupils (93%) disagreed that schools replace transferred teachers immediately and only 7% agreed.

In one of the pupils' focus group discussions, it was also found that human resources especially availability of adequate number of competent teachers were one of the most important school-related factors influencing pupils' academic achievement. One of the pupils had this to say during the discussion;

> *Schools with adequate number of teachers record good academic achievement because teacher to pupil ratio is reduced and concentration on the learning process is also enhanced. Besides, our teachers are also very supportive in the learning process, the only challenge is that, when one is transferred to another school or passes on, replacement is not done immediately and this greatly affects the teaching and our performance.* (FGD, 15/2/2020)

These statements by one of the pupils show that teachers play a vital role in ensuring quality education delivery that would promote good academic achievement among the pupils. Similarly, during the interview sessions with the CQASO, he said;

> *Teachers are very cardinal in learners' academic endeavours because they are entrusted with the government to dispense pertinent knowledge to pupils by following the curriculum. In addition, qualification and experience of teachers also impact more on the pupils' academic performance and so the government has always tried to provide adequate number of qualified teachers to its learning institutions to reduce teacher pupil ratio. On the same note on the relationship between human resource and academic performance, hiring of personnel by the schools to do manual work and cleaning of the school facility gives more time to the pupils to study.* (Interview, CQASO, 2/2/2020)

These findings concur with that of Carless, (2009) who also found that teacher factors such as attitude towards the curriculum, teachers training and their experience have an impact on learning outcome among the pupils. Generally, many studies have shown a relationship between teachers' effectiveness and their years of experience (Murnane & Philip, 2011; Klitgaard & Hall, 2014), but not always a significant one. Rosenholtz (2016) found that inexperienced teachers (those with less than 3 years of experience) are not effective than more senior teachers but the benefit of experience appear to level off after about five years.

4.8.4 Null Hypothesis 2

H_{02}: *There was no statistically significant relationship between human resources and pupils' academic performance.*

To establish whether there was any significant relationship between human resources and pupils' academic performance, Kenya, a Pearson Correlation analysis was conducted between the two variables. Since data for human resources and pupils' academic

performance were measured on ordinal Likert level for each item, it was important to obtain continuous data to facilitate performance of correlation analysis. Thus, summated scores for each respondent were obtained for each of the two scales. The corresponding scores for each respondent were used as data points for the 246 respondents (headteachers and senior teachers).

The null hypotheses were to be tested at 0.05 significance/alpha level (α). The test statistic was a conditional probability called a *p*- value. If $p \leq \alpha$, the null hypothesis is rejected, meaning that the observed difference is significant, that is, not due to chance. However, if the *p*- value will be greater than 0.05(i.e., $p > \alpha$), the null hypothesis will not be rejected (we fail to reject the null hypothesis), meaning the observed difference between the variables is not significant. The correlation output is presented in Table 24

Table 24 Correlation output for human resources and pupils' academic performance

		Human Resources	Pupils' academic performance
Human Resources	Pearson Correlation	1	.672**
	Sig. (2-tailed)		.000
	N	246	246
Pupils' academic performance	Pearson Correlation	.672**	1
	Sig. (2-tailed)	.000	
	N	246	246

**. Correlation is significant at the 0.05 level (2-tailed).

The findings in Table 24 show that there is a strong positive relationship (r = .672) between human resources and pupils' academic performance in Kisumu County which was statistically significant ($p < 0.05$). Since the significance (p value) is less than α level (0 .05) then we reject the null hypothesis that the variances of the two groups are equal, implying that the variances are not equal. The findings show that p- value is less than the

significance level (0.05). That is, 0.00 < 0.05. This implies that the more school has adequate competent human resources, the more likely the pupils will register good academic performance. According to Nyangia (2014), sustainable provision of quality education is influenced by the number of trained teachers and the government's financial aid through capitation.

4.8.5 Regression Output for human resources and pupils' academic performance

To determine the relationship between human resources and pupils' academic performance, regression analysis was conducted between the variables. Data collected was converted to continuous data by summating the individual item scores in the scale for each respondent. Data obtained from the 246 respondents (school head teachers and senior teachers) effectively provided 246 data points. The regression output is presented in Table 25.

Table 25 Regression Output for human resources and pupils' academic performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.729[a]	.519	.532	1.730

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.905	2	325.6	341.990	.000[b]
	Residual	290.107	244	3.992		
	Total	339.012	246			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	43.93	2.454		23.82	.000
	Educational Human resources	.598	.092	.729	6.480	.000

a. Dependent Variable: Pupils mean academic performance

b. Predictors: (Constant), Human resources

The study found that educational human resources explain up to 53.2% (Adjusted R square = .532) of variance in pupils' academic performance. The model was found to be statistically significant as F (2, 244) = 341.99 [p<.05]. Thus, educational human resources account for 53.2% of variance in pupils' academic performances. The variables were modelled to be connected by the linear regression equation in the form:

$$Y = B_0 + B_2X_2 + \varepsilon$$

Where Y is Pupils' academic performance, B_0 is Coefficient of constant term, B_2 is coefficient of educational human resources, X_2 is educational human resources and ε is error term. Thus, replacing the coefficients of regression the equation becomes;

$$Y = 43.9 + 0.598X_2$$

This shows that, when educational resources increase by one positive unit, academic performance among the pupils in Kisumu County increases by 0.598. Thus, educational human resources positively affect pupils' academic performance to a magnitude of 0.598 as indicated by the main effects. This concurs with the findings of Fettler (2011), who also found a strong positive relationship between students' score and teachers experience level after controlling for students' characteristics. However, this is also depicted in the scatter plot in Figure 3.

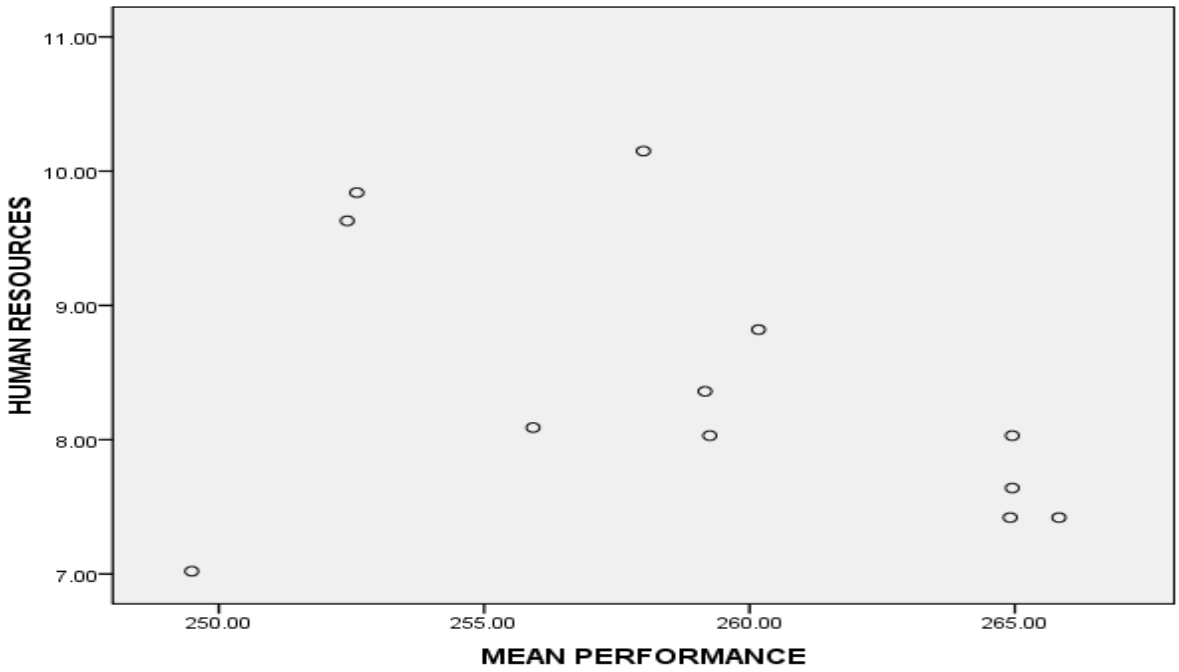

Figure 2: Human Resources and Pupils' Academic Performance

4.9 Relationship Between Physical Resources and Pupils' Academic Performance

The third study objective sought to determine the relationship between physical resources and pupils' academic performance in Kisumu County. Physical resources are vital in pupils' performance in all subjects. In this study provision of physical resources of different types were presented. Statements were given to headteachers, teachers and pupils on various scales. Documents analysis was also done to ascertain some facts for the purpose of illuminating the study. The views of the respondent were collected using a four point scale (4= strongly agree, 3 = Agree, 2 = disagree, 1 = strongly disagree). At the end mean rating was determined. The null hypothesis guiding the study was that there is no statistically significant relationship between physical resources and pupils academic performance. The statements were meant to assess the relationship between the physical resource and pupils' academic performance. The following tables show the response of headteachers, teachers and pupils.

4.9.1 Provision of Physical Facilities in Primary Schools

Table 26 shows results of the observation schedule or checklist of physical facilities made in the sampled primary schools.

Table 26: Observation Schedule for Public Primary School (OBSPPS)

	Resource	Available F %	Not Available F (%)	Adequate	Inadequate
1	Permanent Classroom	123(100)	0(0)		I
2	Permanent offices and staff room	86(70)	37(30)		I
3	Permanent Libraries	25(20)	98(80)		I
4	Book store & Textbooks	123 (100)	0(0)		I
5	Stationery	123 (100)	0(0)		I
6	Male and female Toilets	123 (100)	0(0)		I
7	Furniture – desks and chairs	123 (100)	0(0)		I
8	Playing field	74(60)	49(40)		I

The observation schedule above shows that all primary schools visited had permanent and adequate classrooms at 123(100%). The study also found out that (86) 70% of primary schools had permanent offices and staffrooms and that (111) 90% of them were adequate. There was an indication that (37)30 % of schools had no permanent offices and staffrooms. Libraries were not available in (98) 80% of the schools, (25)20% of the schools had libraries and (12)10% were adequate. Majority of primary schools had book store to store textbooks and other equipment. However, (111) 90% of them were inadequate. All the primary schools visited had requisite stationaries and it was observed that (111) 90 % had good level of adequacy.

Furniture (desks and chairs) were available in (123)100% of the schools however, they were inadequate in (25)20% of primary schools. Playing fields for co-curriculum activities were available in (74) 60% of primary schools while (49) 40% of primary schools had no playing fields. Well designated Paths and pavements were not available in (74)60% of primary schools. Primary schools in Kisumu County (74) 60% had spacious

compounds especially those in rural areas. It was noted that (123) 100% of primary schools had been fenced. From the findings, it can be deduced that although most of the public primary school had various physical facilities, most of them such as desks, library and appropriate playing fields were not adequate. This is in consonance with Mutiu (1994) and Ahmed (2003) who submitted in their various studies that in most of the nation's learning institution, teaching and learning take place under a most unconducive environment, lacking basic materials. These deteriorating conditions have encouraged incessant complaints from students.

Instructional materials were available in most primary schools. Maps and Charts were available in (123)100% of schools and were adequate. Instruments and structures were available in all the sampled schools. Science equipment was spread across (86) 70% of the schools while (37) 30% of the schools had no science equipment. Adequacy was noted to be at (111) 90%. Readers and novels were available in (111) 90% of primary schools and were also adequate according to findings of the study. Chalkboard was available in (123) 100% of the schools. However, the problem was lack of maintenances and repair.

The primary schools had instructional materials that were displayed on the classroom walls. About (62) 50% of charts were displayed in some walls. Classrooms with doors were available in (86)70% of the schools sampled while in (37)30 % doors were missing. (49) 40% of classrooms, mostly in rural areas, had complete ceiling boards. Classes with windows were 70% while 30% had no windows. Inadequacy was noted to be at 30%. Cemented floors were available at 60% especially the schools in urban areas while 40% had floors that were not cemented especially schools in rural areas. These findings reveal

that school facilities constitute major determining factor toward ensuring quality education. It is one of the yardsticks for measuring the level of educational growth and development. It implies substantial cost of the school system for their establishment, if not properly managed and maintained, it will affect the academic performance of students. This concurs with the findings of Bullock (2017) in his studied on the relationship between school facilities and students' academic performance in senior secondary schools. The study examined the relationships that exist between students' academic performance and the overall, structural and cosmetic building conditions. School administrators must be concerned with the structural and cosmetic conditions of school facilities as well as students' academic performance, the combination of existing school facilities, leadership decision, and the financial ability of the schools. Bullock (2017) submitted that students' perform better in school that were new or renovated recently than in older schools. The overall building condition, the school age of the building, and the windows in the instructional areas were positively related to students' performance.

4.9.2 Head Teachers' and Senior Teachers' Response on Provision of Physical Facilities in Relation to Pupils' Academic Performance in Primary Schools

Headteachers and teachers were asked to comment on the statements relating to influence of physical in relation to pupils' academic performance in primary schools.

The table below shows head teachers' and senior teachers' response on provision of physical facilities in relation to pupils' academic performance in primary schools.

Table 27: Head Teachers' and Senior Teachers' Response on Provision of physical Facilities in Relation to Pupils' Academic Performance in primary schools

Statements	R	SA	A	D	SD	Mean
Provision of adequate classrooms has an influence on KCPE performance	H	52(42)	38(31)	15(12)	18(15)	3.00
	T	62(50)	28(23)	20(16)	13(10)	3.13
Availability of library improves academic performance	H	65(53)	43(35)	9(7)	6(5)	3.35
	T	75(61)	33(27)	11(9)	3(2)	3.44
Beautiful school infrastructure motivates pupils to excel in academic and leads to increase in student's enrolment	H	66(54)	39(32)	11(9)	7(6)	3.33
	T	68(55)	28(23)	21(17)	7(6)	3.29
Availability of electricity improves academic performance	H	76(62)	32(26)	12(9)	3(.2)	3.47
	T	87(71)	33(27)	2(.2)	1(.8)	3.67
Adequate supply of water to the school improves academic performance	H	64(52)	46(37)	13(11)	10(8)	3.49
	T	86 (70)	24(19)	13(11)	10(8)	3.67
Availability of staff rooms and offices improves academic performance	H	78(63)	32(26)	11(9)	2(2)	3.51
	T	82(67)	28(23)	11(9)	2(2)	3.54
Availability of teacher houses improves pupils performance	H	24(20)	36(29)	25(20)	35(28)	2.35
	T	94 (76)	12(9.8)	11(9)	6(5.2)	3.57
Enough toilets improves pupils academic performance	H	47(38)	33(27)	27(22)	16(13)	2.90
	T	87(71)	13(11)	18(15)	5(4)	3.48
Availability of adequate desks and chairs improves academic performance	H	78(63)	22(18)	11(9)	12(9.8)	3.34
	T	92(75)	18(15)	10(8)	3(2)	3.70
Availability of text books improves academic performance	H	82(67)	18(15)	16(13)	7(6)	3.42
	T	96(78)	14(11)	6(5)	3(2)	3.59
Adequate pavements and paths improve attractiveness and therefore improves academic performance	H	67(54)	43(35)	8(7)	6(5)	3.41
	T	57(46)	23(19)	20(16)	23(19)	2.93
Adequate playground and adequate space improves academic performance	H	56(46)	44(36)	15(12)	8(7)	3.20
	T	65(53)	25(20)	10(8)	23(19)	3.07
Overall mean	H					**3.23**
	T					**3.42**

KEY: SA-Strongly Agree, A – Agree, D – Disagree, SD - Strongly Disagree)

R= Responds H= Head teacher T= Teacher

Provision of adequate classrooms has an influence on KCPE performance according to teachers' and headteachers' in Kisumu County. About 42% and 31% of headteachers and teachers agreed that physical facilities have a bearing on academic performance. The mean rating was 3.00 and 3.13 respectively for headteachers and teachers. This was an indication of high level of opinion of both headteacher and teacher in regard to the importance of physical facilities. Beautiful school infrastructure does motivate pupil's academic performance and increases pupils' enrolment. The findings show that 80% of

headteacher and 78% of teachers were of this opinion. The mean rating was 3.33 and 3.29 respectively.

Availability of library, electricity and water do influence pupils' academic performance. According to headteachers and teachers in the study, majority agreed with this opinion. According to the findings 86% of headteachers and 78% of the teachers in primary schools agreed that electricity in schools does increase academic performance since learners are able to revise at school late in the evening and early in the morning. The mean rating was 3.47 and 3.67 respectively. Availability of staff rooms and administrative offices affects pupils' academic performance as 89% of head teachers and 90% of teachers' were in agreement and the mean rating was 3.31 and 3.54 respectively. This finding is in line with (McGrowen, 2017) who observed that school facilities are the essential materials that must be put in place and considered so that the objectives of the school system can be achieved; the availability of those facilities determines the quality of instruction and performance of the students in the school.

Teachers' houses do little to improve academic performance. According to the study 48% of headteachers disagreed. However, 86% of teachers held the opinion that availability of teachers' houses in the school improves academic performance. The mean ratings were 2.35 and 3.57 respectively. Availability of desks and textbooks improve academic performance as 67% of head teachers and 78% of teachers strongly agreed. The mean rating was 3.42 and 3.59 respectively. The availability of pavement, paths and playground do influence academic performance. Over 80% of headteachers and teachers agreed with this opinion with a mean rating varying at 3.07 to 3.20. The overall mean for headteachers

and senior teachers was at 3.23 and 3.42 respectively implying that availability of physical facilities strongly relates to pupils' performance.

4.9.3 Pupils' Response on Physical Resources and Pupils' Academic performance

The pupils' response on the relationship between physical resources and pupils' academic performance is shown in Table 28

Table 28: Pupils' Response on Physical Resource and Pupils' Academic Performance

Statements	SA	A	D	SD	Mean
The school has enough classes for all pupils	820(34)	1110(46)	290(12)	193(8)	3.06
Classes have been fitted with good chalkboards to allow pupils learn effectively	627(26)	869(36)	676(28)	241(10)	2.78
Classes have enough desks that enables us learn effectively and efficiently	1351(56)	627(26)	241(10)	193(8)	3.3
Classes are in good condition	1085(45)	675(28)	410(17)	241(10)	3.08
School has a bus/van that facilitates academic trips	772(32)	869(36)	290(12)	482(20)	2.80
Schools has enough water for all pupils and hygiene	1086(45)	1110(46)	121(5)	97(4)	3.32
School is connected with electricity to allow for learning in the evening and early morning.	1086(45)	1182(49)	97(4)	48(2)	3.37
School has a library which is equipped with enough books and resources for all pupils to learn effectively	869(36)	1085(45)	217(9)	241(10)	3.06
School has adequate housing for all teachers	289(12)	869(36)	241(10)	1013(42)	2.18
School has a large dining hall that accommodates all pupils during meals and lunch breaks	844(35)	1110(46)	241(10)	217(9)	3.07
School has adequate playground	1303(54)	772(32)	241(10)	97(4)	3.36
School has adequate paths, pavements and access	1351(55)	1038(42)	24(1)	48(2)	3.57
Overall Mean					**3.07**

KEY: SA -Strongly Agree, A – Agree, D – Disagree, SD - Strongly Disagree

Kisumu county primary schools have enough classes as 34% of pupils strongly agreed while 46% of the students agreed that primary schools had enough classes and 8% disagreed. The mean rating was 3.06 indicating high level of agreement. Therefore, primary schools in Kisumu County had necessary physical facilities for learning. These findings are consistent with the findings of Maingi, Mulwa & Maithya (2017) which showed that a considerably large number of students, 299 (78.6%) agreed that their

schools have classrooms enough for at most 45 students per class. This was confirmed by majority of the teachers 280 (80.1%) who agreed with the statement. The findings show that schools had adequate classroom facilities providing a conducive learning environment. This is consistent with the Choice Theory philosophy that advocates for the creation of a safe space for students to learn, as mainly it is their space, their classroom and they own it. When a sense of ownership is established, students will come to class willingly and with enthusiasm because they want to be challenged. In a school set up, this is the starting point of students' discipline control (Field, 2010).

Majority of pupils agreed that classrooms in Kisumu County were fitted with chalkboards to allow pupils learn as 62% either agreed or disagreed with this statement. The mean rating was 2.78 indicating that this was a moderate opinion. There were exceptional schools where chalkboards were not properly maintained. Desks are the main structures which pupils use during writing. Without them, there is difficulty in learning as 56% of pupils were of the opinion that classes had enough desks while 18% of the pupils disagreed. By extension, it seems that some schools had few desks while some were unsuitable for learning. The mean rating was at 3.3 an indication of high pupils' opinion about the desks available in their schools.

The classrooms were noted to be in good condition as 73 % of pupils agreed or strongly agreed that the classrooms were in good conditions. However, 27% of schools are not doing well in terms of classroom conditions. The mean rating was at 3.08 an indication of good classroom conditions.

The primary schools in Kisumu County are doing well in terms of electricity, water and housing for teachers. The mean rating was 3.37, 3.32 and 3.06 respectively. Majority of pupils (94%) strongly agreed or agreed that they were available. The schools had adequate playground as 54% strongly agreed while 32% agreed however 14% had negative opinion. Playground is used during games and other co-curriculum related activities. The schools had adequate demarcated paths and pavements. This enables access to classes and administration blocks as 55% of pupils strongly agreed while 42% agreed however 3% strongly disagreed. The mean rating was 3.57 an indication of high level of access to classrooms.

During the interview session with the CQASO, it was also found that the availability of school building and other plant facilities are very important as they could enhance effective teaching and learning. He said;

> *Most schools seem to lack the necessary facilities that could enhance effective teaching and learning as a result little is expected from students in terms of academic performance. Experience shows that inadequate physical facilities have some adverse effect on students' interest to learn. Hence, this may invariably affect their academic performance. In a situation where students are not having access to normal facilities like library equipment and inadequate seats in the classroom it is observed that these could contribute to low performance of students*. (Interview, CQASO, 2/2/2020).

These sentiments were also mirrored by one of the pupils during focus group discussions, when she said;

> *Adequate and appropriate physical facilities in the school is good for us as it encourage learning in a conducive environment. However, most of our school physical facilities are old and in a dilapidating condition. For instance, many of the classrooms, furniture/desks, and office furniture are in a terrible state of disrepair and this has contributed to poor academic performance. Most windows are out of use, thereby causing hazards to life while fluorescent tubes for providing electricity are out of place.* (FGD, 15/2/2020).

Similarly, recent studies have emphasized the importance of the availability of physical facilities. Summarizing Ajayi and Ayodele (2001), they emphasized that the availability of these resources are quite important to achieving effectiveness in instructional delivery and supervision in the school system. They further buttressed the fact that non-availability of basic facilities such as classrooms, office accommodation, workshops, sporting facilities, laboratories, library et cetera which is being experienced in secondary schools is a perfect reflection of what obtains in the university system.

Adewunmi (2000), corroborated Chandan's (1999) view, he revealed that the availability of adequate number of physical facilities had significant influence on pupil's academic performance. He further emphasized that adequate number of physical facilities should be supplied to state primary schools. Ademilua (2000), in his study observed that inadequate provision of school resources has been a major factor of poor students' academic performance in Ekiti State. He equally remarked that without adequate physical resources/facilities there would be a continuous decline in students' academic performance.

4.9.4 Null Hypothesis 3

H_{03}: There is no statistically significant relationship between physical resources and pupils' academic performance in Kisumu County.

To establish whether there was any significant relationship between learning physical resources and pupils' academic performance, a Pearson Correlation analysis was conducted between the two variables. Since data for learning physical resources and pupils' academic performance were measured on ordinal Likert level for each item, it was important to obtain continuous data to facilitate performance of correlation analysis.

Thus, summated scores for each respondent were obtained for each of the two scales. The corresponding scores for each respondent were used as data points for the 246 respondents.

The null hypotheses were to be tested at 0.05 significance/alpha level (α). The test statistic is converted to a conditional probability called a *p*- value. If $p \leq \alpha$, the null hypothesis is rejected, meaning that the observed difference is significant, that is, not due to chance. However, if the *p*- value will be greater than 0.05(i.e., $p > \alpha$), the null hypothesis will not be rejected (we fail to reject the null hypothesis), meaning the observed difference between the variables is not significant. The correlation output is presented in Table 29.

Table 29 Correlation output for educational physical resources and pupils' academic performance

		Learning physical resources	Pupils academic performance
Learning physical resources	Pearson Correlation	1	.682**
	Sig. (2-tailed)		.000
	N	246	246
Pupils academic performance	Pearson Correlation	.682**	1
	Sig. (2-tailed)	.000	
	N	246	246

**. Correlation is significant at the 0.05 level (2-tailed).

The findings in Table 29 show that there is a strong positive relationship (r = .682) between education physical resources and pupils' academic performance among the pupils which was statistically significant ($p < 0.05$). Since the significance (p value) is less than α level (0.05) then we reject the null hypothesis that the variances of the two groups are equal, implying that the variances are not equal. The findings show that p-

value is less than the significance level (0.05). That is, 0.00 < 0.05. This implies that as the more public primary schools has adequate physical resources, the more likely pupils will record good academic performance.

4.9.5 Regression Output for Educational physical resources and pupils' academic Performances

To determine the relationship between physical resources and pupils' academic performance in Kisumu County, regression analysis was conducted between the variables. Data collected was converted to continuous data by summating the individual item scores in the scale for each respondent. Data obtained from the 246 respondents effectively provided 246data points. The regression output is presented in Table 30.

Table 30 Regression output for educational physical resources and pupils' academic Performances

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.849[a]	.720	.717	1.221

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.6	2	331.6	332.416	.000[b]
	Residual	332.7	244	3.782		
	Total	357.3	246			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	39.61	2.314		12.22	.000
	Educational physical resources	.621	.071	.634	5.161	.000

a. Dependent Variable: Pupils' Academic performances

b. Predictors: (Constant), Educational physical resources

The study found that educational physical resources explain up to 71.7% (Adjusted R square = .717) of variance in pupils' academic resources. The model was found to be

statistically significant as F (2, 244) = 332.42 [p < .05]. The variables were modelled to be connected by the linear regression equation in the form:

$$Y = B_0 + B_3X_3 + \varepsilon$$

Where Y is pupils' academic performance, B_0 is Coefficient of constant term, B_3 is coefficient educational physical resources, X_3 is the variables explaining educational physical resources and ε is error term. Thus, replacing the coefficients of regression the equation becomes;

$$Y = 39.61 + 0.621X_3$$

This shows that, when educational physical resources increase by one positive unit, pupils' academic performance increases by 0.621. Thus, educational physical resources positively affects pupils' academic performance to a magnitude of 0.621 as indicated by the main effects. To further illustrate this relationship, a scatter plot was generated as shown in Figure 4.

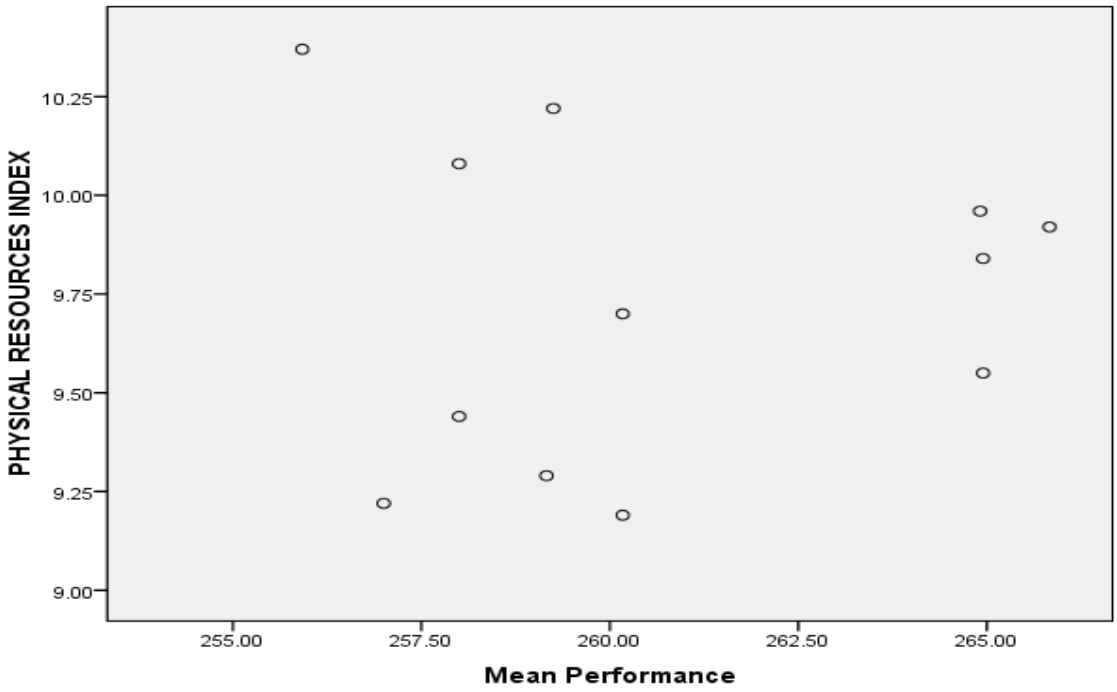

Figure 3: Relationship between physical resources and pupils' Academic performance

4.10 Relationship Between Instructional Resources and Pupils' Academic Performance

Educational instructional resources are vital in the pupils' academic performance in all subjects. The fourth study objectives sought to determine the relationship between instructional resources and pupils' academic performance in Kisumu County. In this study provision of instructional resources of different types were presented. Statements were given to headteachers and pupils on various scales. Documents analysis was done to ascertain some facts for the purpose of illuminating the study. The views of the respondents were collected using a four-point scale (4= strongly agree, 3 = Agree, 2 = disagree, 1 = strongly disagree). At the end mean rating was determined.

4.10.1 Availability of Instructional Resources

Teaching and learning resource management is an integral part of the overall management of the school. Actualization of predetermined goals and objectives by the school management requires provision, maximum utilization and appropriate management of these resources. Adoption of modern methods of resource management helps to improve the quality of teaching and learning. This is because there is a direct relationship between provision and utilization of quality teaching /learning resources and pupils' performance. Using the observation schedule or checklist, the levels of availability of instructional materials in public primary schools in Kisumu County was presented in Table 31.

Table 31 Various Levels of Availability of Instructional Resources in Schools

No.	ITEMS	Available (%)	Not Available (%)	Adequate	Inadequate
Audio- visual materials					
1	Radio	100	00	A	
2	Television	30	70		I
3	Films/ film strips	00	100		I
4	Slides	00	100		I
5	Tape-recording	00	100		I
Two dimensional material (Visual)					
1	Charts	100	00		I
2	Pictures	100	00		I
3	Photograph	00	100		I
4	Maps	100	00		I
5	Diagrams	100	00		I
6	Drawings	100	00		I
Three dimensional materials (0bjects)					
1	Globes	100	00		I
2	Experimental models	100	00		I
3	Castings	00	100		I
4	Objects and Phenomena	100	00		I
5	Minerals	90	10		I
6	Rocks	100	00		I
7	Plants & specimens	100	00		I
8	Glass objects	100	00		I
9	Measuring & monitoring instruments	100	00		I
10	Equipment	100	00		I
Written descriptors					
1	Teaching aids – chalk, felt pens	100	00		I
2	Textbooks	100	00		I
3	Reference materials	100	00		I
4	Readers	80	20		I
5	Exercise books	100	00		I
	Overall assessment	**73**	**50**		

Audio – visual materials in the study included radio, television, films/film strip, slides and tape recorder. The head teachers indicated that radios were available while television were available in 30% of schools. The other audio – visual materials such as film/ film

strip, slides and tape recorders were not available. In terms of adequacy only radio and television were adequate, the rest were inadequate.

Two dimensional materials in the study included charts, pictures, photographs, maps, drawings and diagrams. They were available in all schools at 123 (100%), only photographs were not available. The level of adequacy varied from schools to school. Level of inadequacy was high. The three dimensional materials included globes, experimental models, castings, objects and phenomena, minerals, rocks, plants and species, glass, objects, measuring and monitoring instruments, equipment and machines. The headteachers indicated that majority of items were available at about (123)100% except for minerals. The headteachers also indicated that most of the three-dimensional materials were adequate at various levels with different percentage in every school. Levels of inadequacy were low except castings that were not available. Written descriptors were teaching aids, chalks, felt pens, textbooks, reference materials, readers and exercise books. The headteachers indicated that they were available at about 100% except for readers which was at 80%. The headteacher also indicated that they were adequate at various level of percentage. The level of inadequacy was high for readers.

The overall assessment of availability of teaching and learning materials show that in Kisumu County, there is general availability of teaching and learning material with an average of 74% of what is needed for teaching in primary schools in the county. The study was in agreement with the study conducted by Kingoina, Kadenji and Mobengi (2017) that indicated that majority of the respondents 63 (66.3%) of the teachers and 13 (68.4%) of the head teachers were of the opinion that teaching and learning materials were adequate although 33.7% of the teachers and 31.6% of the head teachers disagreed

that teaching and learning materials were adequate. Responses from 33.7 % and 31.6 % of teachers and head teachers respectively signified that some schools were not facilitated with enough teaching and learning materials. This impacted negatively on pupils' academic performance since adequate teaching and learning materials are critical ingredients in teaching and learning process. This signified that the majority of the schools had basic teaching and learning materials such as text books, teachers' guide books, chalks, exercise books, manila papers for making charts and pens. However, a few schools went an extra mile to provide other resources for instance, revision books, note books, schemes of work/lesson preparation books as a way of enhancing pupils' academic performance. Provision of sufficient teaching and learning material in schools is important as it stimulates pupils learning through discovering new ideas and knowledge. It also boosts content delivery by the teacher.

This finding agreed with Kimeu, Tanui & Ronoh (2015) who reported that good student academic performance depended on sufficient and relevant teachers' reference books and guides, students and teachers' textbooks, charts, chalk board and pieces of chalk as teaching and learning materials. This finding as well agreed with Loukas (2007) who reported that one of school characteristics is physical dimension which entails sufficient teaching and learning resource materials, school size and ratio of students to teachers in classroom, safety and comfort. Jaiyeoba (2011) also concurred with this finding by asserting that inadequate provision of teaching and learning materials was an impediment to effective academic performance of primary schools. Further, Ondieki & Orodho (2015) as well reported that inadequate teaching and learning resources, incomplete syllabus

coverage due to inappropriate instructional approaches and poor attitude amongst pupils and teachers negatively influenced academic performance in schools.

This result contradicts the findings of Makuto (2014) in Teso North Sub-County who found that the teaching and learning materials were inadequate. He asserts that learning materials form one of the schools' assets that enhance pupils' foundation in the school for better performance in final examinations. The study found out that despite most of the schools receiving grants from the Ministry of Education most of the learning materials were not available in schools. This begs the question how was the money used when most essential items were not available in schools. This triggers the thinking of mismanagement of schools funds by head teachers which results to insufficient learning materials hence poor pupils' academic performance in the final examinations.

Oguntunse et al (2013) concluded that availability and adequacy of teaching and learning materials promoted the effectiveness of schools as these are basic things that can trigger good academic performance of students. The study which was on the empirical nexus between teaching and learning resources and academic performance in mathematics among pre – university students in the Ile-Ife South West, Nigeria, recommended that the government and private institutions should provide enough teaching learning aids to students in order to enhance academic performance. This is being done by the government of Kenya as evidenced through FPE funds where purchase of teaching and learning resources is put under tuition fund. In the year 2018, the government committed Ksh. 4.702 billion towards the purchase of teaching and learning materials.

4.10.2 Headteachers Response on Availability of Instruction Resources and Pupils' Academic Performance

Table 32 below shows various responses by the head teachers of public primary schools in Kisumu County on the relationship between instructional resources and pupils' academic performance

Table 32: Response by Headteacher on relationship between Instructional Resources and Pupils' Academic Performance

Statements	SA	A	D	SD	Mean
School has adequate textbooks in every subjects	87(71)	23(18)	10(8)	3(4)	3.57
School has a large number of readers and novels for English and Kiswahili	97(79)	13(10)	7(6)	6(5)	3.63
School has adequate charts, maps for every subject	101(81)	12(10)	10(8)	1(1)	3.75
Science subject has adequate equipment, models and structures for teaching	101(81)	12(10)	10(8)	1(1)	3.75
The school has rooms for science equipment, structures and models	67(54)	33(27)	12(10)	11(9)	3.27
School has enough tuition materials e.g chalks, exercise books	76(62)	24(19)	13(11)	10(8)	3.34
Classrooms have charts displayed	109(88)	10(8)	2(2)	2(2)	3.83
Mathematics teacher has enough equipment, rulers, set squires for the subjects	56(46)	46(37)	12(10)	9(7)	3.21
Headteacher monitor teachers' classroom attendance and use of instructional materials	45(36)	39(32)	11(9)	28(23)	2.73
Chalkboard is adequately for teacher use	109(88)	9(7)	4(3)	2(2)	3.84
Teachers in this school use charts, maps and demonstrate them in class	111(90)	2(2)	7(6)	3(2)	3.8
All teachers attend lesson as scheduled in the timetable	102(83)	8(7)	10(8)	3(2)	3.70
Teachers sometimes do not use charts, equipment and models	45(36)	55(45)	12(10)	11(9)	3.09
Overall Mean					**3.5**

KEY: SA -Strongly Agree, A – Agree, D – Disagree, SD - Strongly Disagree

The headteachers were in agreement that schools had adequate textbooks in every subject, and that there are large number of readers and novels for English and Kiswahili. The mean rating was 3.57 and 3.63 respectively. The headteachers indicated that the schools had adequate charts, maps for all subjects with mean rating of 3.75. The head teachers

also indicated that science subjects had adequate equipment, models and structures for teaching with mean rating of 3.75. They also indicated that science rooms had equipment, structures and models with mean rating of 3.27.

The primary schools had enough tuition materials e.g. chalks, exercise books and that they were displayed on classrooms walls with mean rating of 3.34 and 3.83 respectively. The headteachers were in agreement that mathematics teachers had enough equipment for teaching the subject and the mean rating was 3.21. However, the headteachers mean rating for monitoring teachers' classroom attendance and use of instructional materials was 2.73. Chalkboard was adequately used in primary schools as 95% of head teachers either agreed or disagreed the mean rating was very high at 3.84. Head teachers (92%) also agreed that teachers do use charts maps for demonstration in class, the mean rating was 3.8 and was very high. The headteachers indicated that all lessons were being attended to as scheduled and the mean rating was 3.7 which was very high. The headteachers agreed that teachers sometimes do not use charts, equipment and models. The mean rating was 3.09. The head teachers overall mean was at 3.5 implying that they strongly agreed that instructional resources were available.

4.10.3 Pupils' Opinion on Relationship between Instructional Resources and Pupils' academic performance

Table 33 shows the opinion of pupils on the relationship between instructional resources and pupils' academic performance.

Table 33: Response of Pupils on Relationship between Instructional Resources and Pupils' Academic Performance

Statements	SA	A	D	SD	Mean
School has adequate textbooks in every subjects	48(2)	97(4)	97(4)	2171(90)	1.18
School has a large number of readers and novels for English and Kiswahili	48(2)	97(4)	97(4)	2171(90)	1.18
School has adequate charts, maps for every subject	48(4)	145(6)	241(10)	1930(80)	1.25
Science subject has adequate equipment, models and structures for teaching	241(10)	579(24)	386(16)	1206(50)	1.93
The school has rooms for science equipment, structures and models	1327(55)	845(35)	121(5)	121(5)	3.4
School has enough tuition materials e.g chalks, exercise books	482(20)	723(30)	482(20)	723(30)	2.4
Classrooms have charts displayed	48(2)	145(6)	48(2)	2171(90)	1.2
Mathematics teacher has enough equipment, rulers, set squires Subjects	820(34)	675(28)	193(8)	723(30)	2.65
Head teacher monitors teachers' classroom attendance and use of instructional materials	482(20)	290(12)	193(8)	1448(60)	1.6
Chalkboard is adequate for teacher use	603(25)	1327(55)	241(10)	241(10)	2.9
Teachers in this school use charts, maps and demonstrate them in class	579(24)	290(12)	193(8)	1351(56)	2.04
All teachers attend lesson as scheduled in the timetable	603(25)	1327(55)	290(12)	193(8)	2.96
Teachers sometimes do not use charts, equipment and models	965(40)	483(20)	193(8)	772(32)	2.7
Overall Mean					**2.1**

In analysing pupils' responses, 90% disagreed that the school had adequate textbooks in every subjects with mean rating of 1.18 while 10% agreed that that they were adequate. Pupils (90%) disagreed that there were large numbers of readers and novels for English and Kiswahili languages. In terms of charts, maps, equipment, models and structures for teaching the mean rating was 1.25 and 1.93 indicating that majority disagreed that they were adequate. In terms of rooms for science teaching and practices, 90% of pupils indicated that they were available while the mean rating was 3.4 in addition 62% of pupils

indicated that science and maths teachers had rulers, equipment and set squares for their subjects at a mean rating of 2.65. However pupils indicated that there was a challenge in displaying charts in classroom with mean rating of 1.2 which was very low.

Pupils indicated that 68% of the headteachers do not monitor teachers' classroom attendance and use of instructional materials and the mean rating was 1.6, an indication of low head teacher participation. Pupils (80%) indicated that teachers do use chalk board while 64% of teachers in the school rely on other sources instead of using charts, maps and demonstration in class in the course of teaching. The mean rating was 2.04 indicating low teacher participation. However, 80% of teachers attend to their lessons as scheduled in the time table with mean rating of 2.96. This was moderate. The average pupils' rating and their opinion on use of instructional materials was 2.1 implying there was low use of instructional material in primary schools in Kisumu County.

4.10.4 Null Hypothesis 4

H_{03}: There is no statistically significant relationship between instructional resources and pupils' academic performance in Kisumu County.

To establish whether there was any significant relationship between instructional resources and pupils' academic performance, a Pearson Correlation analysis was conducted between the two variables. Since data for instructional resources and pupils' academic performance were measured on ordinal Likert level for each item, it was important to obtain continuous data to facilitate performance of correlation analysis. Thus, summated scores for each respondent were obtained for each of the two scales. The corresponding scores for each respondent were used as data points for the 246 respondents.

The null hypotheses were to be tested at 0.05 significance/alpha level (α). The test statistic is converted to a conditional probability called a *p*- value. If $p \leq \alpha$, the null hypothesis is rejected, meaning that the observed difference is significant, that is, not due to chance. However, if the *p*- value will be greater than 0.05(i.e., $p > \alpha$), the null hypothesis will not be rejected (we fail to reject the null hypothesis), meaning the observed difference between the variables is not significant. The correlation output is presented in Table 34.

Table 34 Correlation output for instructional resources and pupils' academic performance

		Instructional resources	Pupils academic performance
Instructional resources	Pearson Correlation	1	.669**
	Sig. (2-tailed)		.000
	N	246	246
Pupils academic performance	Pearson Correlation	.669**	1
	Sig. (2-tailed)	.000	
	N	246	246

**. Correlation is significant at the 0.05 level (2-tailed).

The findings in Table 34 show that there is a strong positive relationship (r = .669) between instructional resources and pupils' academic performance among the pupils which was statistically significant ($p < 0.05$). Since the significance (p value) is less than α level (0.05) then we reject the null hypothesis that the variances of the two groups are equal, implying that the variances are not equal. The findings show that p- value is less than the significance level (0.05). That is, $0.00 < 0.05$. This implies that as the more

public primary schools has adequate instructional resources, the more likely pupils will record good academic performance.

4.10.5 Regression Output for instructional resources and pupils' academic Performances

To determine the relationship between instructional resources and pupils' academic performance in Kisumu County, regression analysis was conducted between the variables. Data collected was converted to continuous data by summating the individual item scores in the scale for each respondent. Data obtained from the 246 respondents effectively provided 246 data points. The regression output is presented in Table 35

Table 35: Regression output for instructional resources and pupils' academic Performances

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.779[a]	.607	.601	1.212

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.4	2	348.7	256.967	.000[b]
	Residual	282.7	244	2.986		
	Total	312.1	246			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	40.66	2.567		14.31	.000
	Instructional resources	.671	.084	.598	4.672	.000

a. Dependent Variable: Pupils' Academic performances
b. Predictors: (Constant), instructional resources

The study found that instructional resources explain up to 60.0% (Adjusted R square = .601) of variance in pupils' academic resources. The model was found to be statistically significant as $F(2, 244) = 348.7$ [$p < .05$]. The variables were modelled to be connected by the linear regression equation in the form:

$$Y = B_0 + B_3X_3 + \varepsilon$$

Where Y is pupils' academic performance, B_0 is Coefficient of constant term, B_3 is coefficient instructional resources, X_3 is the variables explaining instructional resources and ε is error term. Thus, replacing the coefficients of regression the equation becomes;

$$Y = 40.66 + 0.671X_3$$

This shows that, when instructional resources increase by one positive unit, pupils' academic performance increases by 0.671. Thus, instructional resources positively affects pupils' academic performance to a magnitude of 0.671 as indicated by the main effects

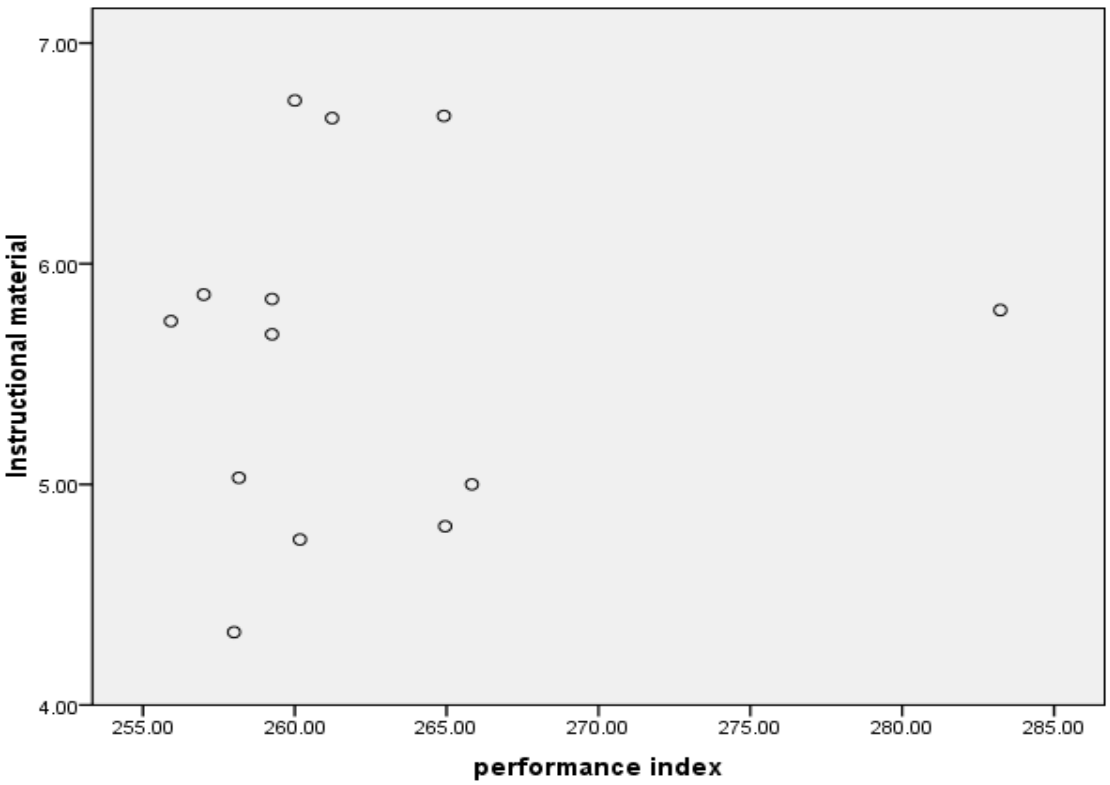

Figure 4: Scatter Plot on Relationship between Instructional Resources and Pupils' Academic Performance

The scatter plot figure.5 shows some evidence of positive correlation between instructional resources and academic performance. The dots seem to be rising from lower end to the upper right, indicating a positive correlation between the variables. However, to estimate the level of influence of instructional resources on pupils' performance, a coefficient of determination was computed. During the pupils' focus group discussion, the pupils agreed that the instructional resources were available but inadequate for them all. One pupil had this to say:

> *Instructional resources are available but not enough for all of us. A good example is in English subject where five of us share one book and this makes it difficult for us to do assignment given to us by the teacher, thereby affecting our performance.*

Another pupil noted that',

> *Equipment and apparatus used in mathematics and science are very few especially when it has to be shared with other streams having the same subject at the same time and this affects our performance.*

During the interview session with the CQASO, it was found that instructional resources such as text books were vital for learning process, yet most of the schools had them in limited amount. He said;

> *At the moment most public primary school in Kisumu County share most of the teaching and learning materials because they are not enough and this makes it difficult to promote effective teaching and learning hence compromising academic performance of the learners. (Interview, CQASO 2/2/2020)*

Similarly, Ball & Cohen, (1996) observed in their study that for curriculum to be fully implemented as per plan, schools should be supplied with adequate materials such as textbooks, teaching aids and stationery in order to enable teachers and learners to play their role satisfactorily in the learning process. Other studies such as Lockheed et al, (1991) and Mungai, (1992) also found that no meaningful teaching and learning, takes place without adequate materials.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Introduction

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

5.2 Summary of Findings

5.2.1 Trends of Academic Performance of Public Primary Schools Kisumu County

The findings of the study show that performance per subject has been fluctuation from 2012 to 2018. The performance of mathematics has been fluctuating from 53.08 in 2012 to a high of 54.11 in 2014. The performance of English has also been fluctuating. The performance of Kiswahili improved from low of 45.68 in 2012 to a high of 52.72 in 2016. The performance of Social studies has been fluctuating from 51.11 in 2012 to 54.29 in 2014. It dropped to 53.00 in 2015 before dropping further to 52.18 in 2018. The performance of science has been fluctuating from 54.29 in 2012 to a low of 51.82 in 2017. The nature of trend has been fluctuating as shown in the figure 4.1 below. These results were consistent with other research which found that indeed primary schools exhibited poor academic performance in various parts of the country.

5.2.2 Relationship between Financial Resources and Pupils' Academic Performance

The study findings from descriptive statistics obtained from the Head teachers' and Senior Teachers' Opinion on Financial Management and Pupils' Academic Performance shows a mean response of 3.50, while that of pupils Response on Financial Resources and Pupils' Academic Performance averagely recorded mean of 3.6 showing a strong relationship between financial resources and pupils' academic performance in Kisumu

County. Findings from Pearson correlation analysis shows that there was a strong positive relationship (r = .635) between financial resources and pupils' academic performance in Kisumu County which was statistically significant (p < 0.05). Similarly, results from

linear regression analysis depicts an equation of $Y = 48.61 + 0.654X_2$, showing that, when financial resources change by one positive unit, academic performance among the pupils in Kisumu County increases by 0.654. Thus, school financial performance positively affect pupils' academic performance to a magnitude of 0.654 as indicated by the main effects. Finance is the avenue through which learners' bills are paid. If their finances are not adequate, the situation may tend to affect their academic performance adversely. If, on the other hand, their financial needs are met adequately, probably their performance may be enhanced, (Odebunmi, 1988 and Egbule 2004). This can be seen practically: a learner whose amount is inadequate will have to devise other ways to have more money and this will affect his learning because he/she has to go out during learning.

5.2.3 Relationship between Human Resources and Pupils' Academic Performance

The study findings based on descriptive statistics from the response of head teachers on the relationship between Human Resource and Pupils' Academic Performance shows a mean rating of 3.5(high), senior teachers recorded averagely mean response of 2.79, while pupils showed a mean response of 2.86. These findings show that generally human resources relate strongly with the academic performance of the pupils. Similarly, Pearson correlation analysis shows that there is a strong positive relationship (r = .672) between human resources and pupils' academic performance in Kisumu County which was statistically significant (p < 0.05). This implies that the more school has adequate

competent human resources, the more likely the pupils will register good academic

performance. Linear regression analysis also shows the equation of $Y = 43.9 + 0.598X_2$, implying that, when educational resources increase by one positive unit, academic performance among the pupils in Kisumu County increases by 0.598. Thus, educational human resources positively affect pupils' academic performance to a magnitude of 0.598 as indicated by the main effects.

5.2.4 Relationship between Physical Resources and Pupils' Academic Performance

Results from descriptive statistics from the response of Head Teachers' and Senior Teachers' Response on Provision of Physical Facilities in Relation to Pupils' Academic Performance in Primary Schools shows an average mean response of 3.23, while that of pupils shows was 3.07. These findings implies that there is a strong relationship beteen physical resource and pupils academic performance. Similarly, findings from Pearson correlation test show that there is a strong positive relationship (r = .682) between education physical resources and pupils' academic performance among the pupils which was statistically significant ($p < 0.05$). This implies that as the more public primary schools has adequate physical resources, the more likely pupils will record good academic performance. Regression Output for Educational physical resources and pupils'

academic Performances shows $Y = 39.61 + 0.621X_3$, implying that, when educational physical resources increase by one positive unit, pupils' academic performance increases by 0.621. Thus, educational physical resources positively affects pupils' academic performance to a magnitude of 0.621 as indicated by the main effects

5.2.5 Relationship between Instructional Resources and Pupils'Academic Performance

The study findings based on descriptive statistics from the responses of Headteachers and pupils shows a mean response of 3.5 and 2.1 respectively. This shows that there was a relationship between instruction resources and Pupils' Academic Performance. Similarly, Pearson correlation analysis shows that there is a strong positive relationship (r = .669) between instructional resources and pupils' academic performance among the pupils which was statistically significant ($p < 0.05$). This implies that as the more public primary schools has adequate instructional resources, the more likely pupils will record good academic performance. Linear regression Output for instructional resources and pupils' academic Performances shows $Y = 40.66 + 0.671X_3$. This shows that, when instructional resources increase by one positive unit, pupils' academic performance increases by 0.671. Thus, instructional resources positively affects pupils' academic performance to a magnitude of 0.671 as indicated by the main effects

5.3 Conclusions of the Study

The first study objective sought to establish the relationship between financial resources and pupils' academic performance in Kisumu County. Conclusion made from the findings on were that financial resources were very critical for running school programs, and that there was a relationship between financial resources and pupils academic performance. Pearson correlation analysis also shows a strong positive relationship (r = .635) between financial resources and pupils' academic performance in Kisumu County which was statistically significant ($p < 0.05$). Similarly, results from linear regression analysis

depicts an equation of $Y = 48.61 + 0.654X_2$, showing that, when financial resources change by one positive unit, academic performance among the pupils in Kisumu County increases by 0.654. Thus, school financial performance positively affect pupils' academic performance to a magnitude of 0.654 as indicated by the main effects. The study therefore reject the null hypothesis which says "*There was no statistically significant relationship between financial resources and pupils' academic performance in Kisumu County"*.

The second study objective sought to establish the relationship between human resources and pupils' academic performance in Kisumu County. The study concluded that human resources especially adequate number of qualified and competent teachers were important for school academic performance. Pearson correlation analysis also shows that there is a strong positive relationship (r = .672) between human resources and pupils' academic performance in Kisumu County which was statistically significant ($p < 0.05$). This implies that the more school has adequate competent human resources, the more likely the pupils will register good academic performance. Linear regression analysis also shows

the equation of $Y = 43.9 + 0.598X_2$, implying that, when educational resources increase by one positive unit, academic performance among the pupils in Kisumu County increases by 0.598. Thus, educational human resources positively affect pupils' academic performance to a magnitude of 0.598 as indicated by the main effects. The study therefore reject the null hypothesis which says "*There was no statistically significant relationship between human resources and pupils' academic performance in Kisumu County"*.

The third study objective sought to determine the relationship between physical resources and pupils' academic performance in Kisumu County. The study therefore concluded that physical facilities such classrooms, desks, library, play ground and general school environment must be conducive for effective teaching and learning to take place. Therefore, there is a strong relationship beteen physical resource and pupils academic performance. Pearson correlation test also show that there is a strong positive relationship (r = .682) between education physical resources and pupils' academic performance among the pupils which was statistically significant ($p < 0.05$). This implies that as the more public primary schools has adequate physical resources, the more likely pupils will record good academic performance. Regression Output for Educational physical

resources and pupils' academic Performances shows $Y = 39.61 + 0.621X_3$, implying that, when educational physical resources increase by one positive unit, pupils' academic performance increases by 0.621. Thus, educational physical resources positively affects pupils' academic performance to a magnitude of 0.621 as indicated by the main effects. The study therefore reject the null hypothesis which says "*There was no statistically significant relationship between physical resources and pupils' academic performance in Kisumu County"*.

The fourth study objectives sought to determine the relationship between instructional resources and pupils' academic performance in Kisumu County. The study concluded that although most of the public primary schools in Kisumu County had inadequate instructional resources, these materials influence academic performance of the pupils. Pearson correlation analysis shows that there is a strong positive relationship (r = .669)

between instructional resources and pupils' academic performance among the pupils which was statistically significant ($p < 0.05$). This implies that as the more public primary schools has adequate instructional resources, the more likely pupils will record good academic performance. Linear regression Output for instructional resources and pupils' academic Performances shows $Y = 40.66 + 0.671X_3$. This shows that, when instructional resources increase by one positive unit, pupils' academic performance increases by 0.671. Thus, instructional resources positively affects pupils' academic performance to a magnitude of 0.671 as indicated by the main effects. The study therefore reject the null hypothesis which says "*There was no statistically significant relationship between instructinal resources and pupils' academic performance in Kisumu County"*.

5.4 Recommendations

The study makes the following recommendations;

1. The government should allocate funds in public primary schools in Kisumu County to enable schools put up facilities like class rooms, libraries, offices and toilets to create a condusive teaching and learning environment.
2. The MOE should equip public primary schools with adequate instructional resources like textbooks, teachers' reference books, radios, televisions, computers and projectors to improve pupils' performance in Kisumu County.
3. Teachers Service Commission should recruit, and post more teachers and replace on time transferred teachers to ensure adequate teacher/pupil ratio as per the Curriculum Based Establishment.

4. Quality Assurance and Standards Officers (QASOs) should ensure regular supervision in schools.

5.5 Suggestion for Further Study

The researcher suggests the following area for further research:

i. A similar study to be carried out in the entire country or in other counties to ascertain the relationship between educational resources and pupils' academic performance.

ii. The current study was delimited on educational resources and pupils' performance. It is suggested that a study be done on the influence of external school environment on pupils' performance in KCPE.

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APPENDICES

Appendix A: Letter of Introduction

MASENO UNIVERSITY
DEPARTMENT OF EDUCATIONAL MANAGEMENT
& FOUNDATIONS
P. O. BOX 333-40105
MASENO

Dear Sir/Madam,

RE: CARRYING OUT OF RESEARCH

I am a PhD student at Maseno University carrying out research on the **Relationship between educational resources and pupil performance in Public Primary Schools in Kisumu County Kenya.**

Your school has been randomly selected for the purpose of participation in the study. It is my humble request that you assist me by filling the questionnaires as accurately as possible. The answers and opinions given will only be used for academic purposes and treated with utmost confidentiality.

I take this opportunity to thank you in advance for your co-operation.

Yours faithfully,

Joan A. Mutula

Appendix B: Questionnaire For Public Primary Schools Headteachers (QPPSH)

This questionnaire seeks to find out information on the status of the school in terms of background information, financial resources, physical resources and human resources. Kindly fill in the spaces below or Tick(√) as appropriate.

Section A: Background Information

1. Name of the school……
2. How long has the school been in existence…….
3. Gender: Male ……. Female……..
4. State your highest academic qualification……....
5. Please state how long you have been in the teaching profession …….
6. Please state the pupils' population…….
7. Please state the Teacher population……
8. Category of the school (*Boarding/day*) …….

Section B: Academic Performance in KCPE

The Headteacher as an agent of good academic performance contributes to achievement of pupils' performance in ways stated below. Based on your experience indicate with ticks your best opinion and agreement with the following statements

VF=(Very Frequently); F= frequently LF= Less Frequently R=rarely

STATEMENT	VF	F	LF	R
How often are CATS given to students?				
Do you facilitate provision of textbooks?				
Do you facilitate availability of teaching resources?				
Do you ensure good time management in the school?				
Do you check scheme of work?				
Do you hold staff meetings to review academic performance?				
Do you check syllabus coverage?				
Do you check pupils' notes?				
Do you check staff attendance register?				

Fill the table below to show academic scores in KCPE from 2013 – 2017.

Years	Subjects in KCPE and the mean score					
	Maths	English	Kiswahili	Social Studies	Science	Mean score
2017						
2016						
2015						
2014						
2013						
Means						

Section C: Relationship between physical resources and pupils' performance in public primary schools

Comment on the following statements relating to influence of school physical facilities on pupils' academic performance in your school by using the key below:

Key =SD(Strongly Disagree) D=(Diagree) A=(Agree) SA(Strongly Agree)

Statements	SA	A	D	SD
Classrooms are adequate enough to influence KCPE performance.				
Availability of library improves academic performance.				
Good school infrastructure motivates pupils to excel in academic and leads to increase in pupils' enrolment.				
Availability of electricity improves academic performance.				
Adequate supply of water to the school improves academic performance.				
Availability of staff rooms and offices improve academic performance.				
Availability of teacher houses improves pupil's performance.				
Enough toilets improve pupils' academic performance.				
Availability of adequate desks and chairs improves academic performance.				
Availability of text books improves academic performance.				
Adequate pavements and good school paths improve attractiveness and therefore improves academic performance.				
Adequate playground and adequate space improves academic performance.				

Section D: Relationship between financial resources and pupils' performance

1. Kindly fill the table below using (√) as follows: SA=Strongly Agree A= agree D= disagree SD= Strongly Disagree

Statement	**SA**	**A**	**D**	**SD**
The money given by the government is adequate.				
To improve academic performance, pupils pay additional fee.				
To motivate teacher pupils are charged some fee.				
Pupils are sent home from time to time for school fees.				
Classes are sometimes lost when pupils go home for fees.				
School has an income generating activities to finance its activities.				
School fees payments affects pupils performance in this school.				
Parents in this school participate actively in financing activities.				

Section E: Human Resource and pupils' performance

Kindly fill the table below using (√) as follows: SA=Strongly Agree A= agree D= disagree SD= Strongly Disagree

Statements	**SA**	**A**	**D**	**SD**
School has enough teachers.				
School has adequate teachers in every subjects.				
School has a large number of experienced teachers.				
Teachers are inspired to perform well.				
Teachers are available for consultation.				
Teachers are occasionally transferred to other schools and replaced immediately.				
Transfer of teacher negatively affects academic performance.				
Teachers find time to revise assignment.				
Head teacher monitors teacher classroom attendance.				
Teachers perform well in their subjects.				
Teachers inspire pupils to perform well in subject they teach.				
All teachers attend lesson as scheduled in the timetable.				
Teachers sometimes miss lessons.				

Section F: Relationship between instructional resources and pupils' performance

1. State the textbook pupil ration in ENGLISH_____ MATHS_____ SOCIAL STUDIES/CRE_____KISWAHILI_ SCIENCE_
2. Does your school provide exercise books for pupils: yes_____ No_____
3. If no in No. 2 above how do pupils get exercise books
    a) _____
    b) _____
    c) _____
4. Kindly fill the table below using (√) as follows: SA=Strongly Agree A= agree D= disagree SD= Strongly Disagree

Statements	**SA**	**A**	**D**	**SD**
School has enough text books for all the subjects.				
School has a large number of readers and novels for English and Kiswahili.				
School has adequate charts, maps for every subject.				
Science subject has adequate equipment, models and structures for teaching.				
The school has rooms for science equipment, structures and models.				
School has enough tuition materials e.g chalks, exercise books.				
Classrooms have charts displayed for all the subjects.				
Mathematics teacher has enough rulers, set squires, dividers for the subject.				
Head teacher monitors teacher's classroom attendance and use of instructional materials.				
Chalkboard is adequate for teachers' use.				
Teachers in this school use charts, maps and avail them in class.				
All teachers attend lesson as scheduled in the timetable.				
Teachers sometimes do not use charts, equipments and models.				

5. Kindly indicate various level of availability of the following instructional resources in your school

No.	ITEMS	Adequate	Inadequate
	Audio- visual materials		
1	Radio		
2	Television		
3	Films/ film strips		
4	Slides		
5	Tape-recording		
	Visual materials		
1	Charts		
2	Pictures		
3	Photograph		
4	Maps		
5	Diagrams		
6	Drawings		
	Objects		
1	Globes		
2	Experimental models		
3	Castings		
4	Objects and Phenomena		
5	Minerals		
6	Rocks		
7	Plants & specimens		
8	Glass objects		
9	Measuring & monitoring instruments		
10	Equipment		
11	Machines		
	Written descriptors		
1	Teaching aids – chalk, felt pens		
2	Textbooks		
3	Reference materials		
4	Readers		
5	Exercise books		

Appendix C: Senior Teacher Questionnaire for Public Primary Schools (STQPPS)

This questionnaire seeks to find out information on the status of the school in terms of background information, financial resources, physical resources and human resources'. Kindly fill in the spaces below or Tick (√) as appropriate.

Section A: Background Information

1. Name of the school……..
2. How long have you been in this school……...
3. Gender: male …… female……..…….
4. Please state your highest Academic qualification…….……..
5. For how long have you taught…….……

Section B: Teacher questionnaire on physical resources and pupils' performance

Kindly fill the table below using (√) as follows: SA=Strongly Agree A= agree D= disagree SD= Strongly Disagree

Statements	SA	A	D	SD
Provision of adequate classrooms has an influence on KCPE performance.				
Availability of library improves academic performance.				
School infrastructure motivates pupils to excel in academic and leads to increase in pupils' enrolment.				
Availability of electricity improves academic performance.				
Adequate supply of water to the school improves academic performance.				
Availability of staff rooms and offices improves academic performance.				
Availability of teacher houses improves pupils performance.				
Enough toilets improve pupils academic performance.				
Availability of adequate desks and chairs improves academic performance.				
Availability of text books improves academic performance.				
Adequate pavements and good school paths improve attractiveness and therefore improves academic performance.				
Adequate playground and adequate space improves academic performance.				

Section C: Teachers questionnaire on financial resources in relation to pupils' performance

Kindly fill the table below using (√) as follows: SA=Strongly Agree A= agree D= disagree SD= Strongly Disagree

Statement	**SA**	**A**	**D**	**SD**
The money given by the government for FPE is adequate.				
To improve academic performance, students pay additional fee				
To motivate teacher pupils are charged some fee.				
Students are sent home from time to time for school fees.				
Classes are sometimes lost when students go home for fees.				
School has an income generating activities to finance its activities.				
School fees payments affects students' performance in this school.				
Payments of teachers employed by the BOM pose a serious challenge to this school.				
Parents in this school participate actively in financing activities.				

Section D: Teacher questionnaire on Human resources in relation to pupils' performance

Kindly fill the table below using (√) as follows: SA=Strongly Agree A= agree D= disagree SD= Strongly Disagree

Statements	SA	A	D	SD
The working condition in this school is suitable for teaching.				
The remuneration of teachers is not adequate.				
Given opportunity, I would transfer to another school.				
The school has enough teachers.				
Parents in this school are involved in pupils academic performance.				
I am satisfied with my work.				
My working environment is not conducive.				
My workload is too much for me to handle.				
Given opportunity I would upgrade my professional qualification.				
I don't have time to prepare for my lessons in advance.				
I am motivated to do my work.				
My working environment is not conducive.				

Section F: Relationship between instructional resources and pupils' performance

1. State the textbook pupil ration in ENGLISH_____ MATHS_____ SOCIAL STUDIES/CRE_____KISWAHILI _____ SCIENCE _____
2. Does your school provide exercise books for pupils: yes_____ No _____
3. If no in No. 2 above how do pupils get exercise books
    a) _____
    b) _____
    c) _____
4. Kindly fill the table below using (√) as follows: SA=Strongly Agree A= agree D= disagree SD= Strongly Disagree

Statements	**SA**	**A**	**D**	**SD**
School has enough text books for your particular subject.				
School has adequate text books in every subjects.				
School has a large number of readers and novels for English and Kiswahili.				
School has adequate charts, maps for every subject.				
Science subject has adequate equipment, models and structures for teaching.				
The school has rooms for science equipment, structures and models.				
School has enough tuition materials e.g. chalks, exercise books.				
Classrooms have charts displayed.				
Mathematics teacher has enough equipments, rulers, set squires for the subjects.				
Headteacher monitors teacher classroom attendance and use of instructional materials.				
Chalkboard is adequately for teacher use.				
Teacher's in this school use charts, maps and demonstrate them in class.				
All teachers attend lesson as scheduled in the timetable.				
Teacher's sometimes do not use charts, equipments and models.				

Appendix D: Questionnaire For Pupils in Public Primary Schools

Introduction

This questionnaire is designed for the purpose of studying the relationship between educational resources and pupils' performance in public primary schools in Kenya. The information provided will be treated with confidentiality and is only for academic purposes.

Kindly fill this questionnaire by putting a tick to indicate the correct answer or by filling in the required information in the spaces provided. This questionnaire seeks to find out information on the status of the school in terms of background information, financial resources, physical resources and human resources'. Kindly fill in the spaces below or Tick (√) as appropriate.

Section A: Background Information

1. Name of the school……..……
2. How long have you been in this school ……..
3. Gender: Male ……. Female…….……
4. Teacher population in this school……

Section B: Pupils questionnaire on Physical resources and pupils' performance

Kindly fill the table below using (√) as follows: SA=Strongly Agree A= agree D= disagree SD= Strongly Disagree

Statements	**SA**	**A**	**D**	**SD**
The school has enough classes for all pupils.				
Classes have been fitted with good chalkboards to allow you learn effectively.				
Classes have enough desks that enables you learn effectively and efficiently.				
Classes are in good condition.				
School has a bus/van that facilitates academic trips.				
School has enough water for all pupils and hygiene.				
School is connected with electricity to allow for learning very early/late in the day.				
School has a library which is equipped with enough books and resources for all pupils to learn effectively.				
School has a large dining hall that accommodates all pupils during				

meals and lunch breaks.				
School has an adequate playground.				
School has adequate paths, pavements and access.				

Section C: Pupils questionnaire on financial resources

Kindly fill the table below using (√) as follows: SA=Strongly Agree A= agree D= disagree SD= Strongly Disagree

Statement	**SA**	**A**	**D**	**SD**
Pupils pay additional fee				
To motivate teacher pupils are charged some fee.				
Are you sent home from time to time for school fees.				
Classes are sometimes lost when pupils go home for fees.				
School has an income generating activity to finance its activities.				
Parents in this school participate actively in financing activities.				

Section D: Pupils questionnaire on Human Resources

Kindly fill the table below using (√) as follows: SA=Strongly Agree A= agree D= disagree SD= Strongly Disagree

Statements	SD	D	A	SA
Are all subjects taught effectively as timetabled.				
The school asks us for money to pay teachers.				
The performance of teachers is not sufficient.				
Teacher do not cover syllabus in time for national exams.				
The school has experience teachers.				
Teachers are available for consultation.				
Teachers are occasionally transferred to other schools affecting provision of quality education service.				
The school replaces transferred teachers immediately.				
All teacher attend all their lessons as scheduled in the timetable.				

Section E: Relationship Between Instructional Resources and Pupils Performance

5 Kindly fill the table below using (√) as follows: SA=Strongly Agree A= agree D= disagree SD= Strongly Disagree

Statements	**SA**	**A**	**D**	**SD**
Textbooks are adequate in every subject.				
Readers and novels for English and Kiswahili are available.				
There are adequate charts, maps for every subject.				
Science subject has adequate equipment, models and structures for teaching.				
The school has rooms for science equipment, structures and models.				
School has enough tuition materials e.g. chalks, exercise books.				
Classrooms have charts displayed.				
There are enough equipment, rulers, set squires for the subjects.				
Chalkboard is adequately for teacher use.				
Teachers in this school use charts, maps and demonstrate them in class.				
All teachers attend lesson as scheduled in the timetable.				
Teachers sometimes do not use charts, equipments and models.				

Appendix E: CQASO Interview Schedule for Public Primary School

This interview seeks to find out your views concerning the educational resources and their relationship with provision of quality education in Kisumu County

1. Despite the implementation of Free Primary School education quite a large number of primary school pupils are out of school. What are the contributory factors?
2. How do physical facilities influence pupils performance
3. How do human resources influence pupils academic performance
4. What measures has the county done to improve the human and instructional resources?

Appendix F: Observation Schedule for Public Primary School (OBSPPS)

	Resource	Available	Not available	Adequate	Inadequate
1	Permanent Classroom				
2	Permanent offices and staff room				
3	Permanent Libraries				
4	Book store & Textbooks				
5	Stationery				
6	Male and female Toilets				
7	Furniture – desks and chairs				
8	Playing field				
9	Paths and pavement				
10	Spacious compound				
11	Good environment				
12	School is fenced				
13	Maps and charts				
14	Instruments and structures				
15	Science equipments				
16	Mathematics instruments and equipments				
17	Classroom readers and novels				
18	chalkboards				
19	Walls with charts				
20	Classes with doors				
21	Classes with complete windows				
22	Classes with ceiling board				
23	Cemented floors in offices and classrooms				

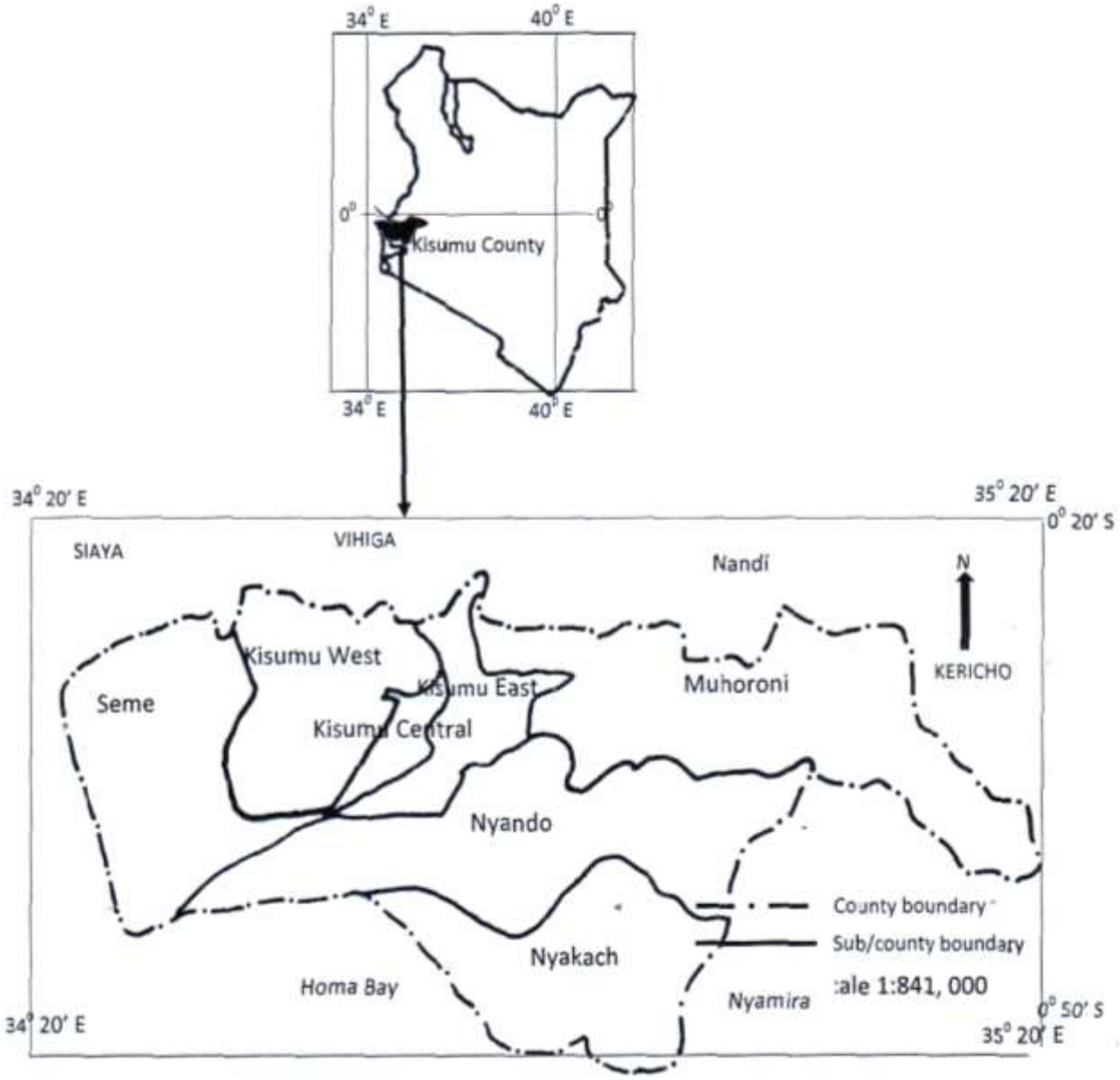
Appendix G: Document Analysis Guide For Public Primary Schools

	Subjects in KCPE AND THE MEAN SCORE					
YEAR	**MATHS**	**ENGLISH**	**KISWAHILI**	**SOCIAL STUDIES**	**SCIENCE**	**MEAN**
2012	53.08	53.60	45.68	51.11	54.29	**240.45**
2013	53.93	55.42	47.88	53.96	53.93	**258.00**
2014	54.11	54.92	47.72	54.29	54.58	**262.25**
2015	52.54	52.82	47.77	53.00	53.53	**258.18**
2016	49.76	55.21	52.72	53.61	53.62	**265.65**
2017	47.32	53.4	51.35	52.04	51.82	**264.29**
2018	51.12	54.81	48.64	52.18	52.32	**263.01**
Overall Average	**51.56**	**54.38**	**48.97**	**53.074**	**53.28**	**258.47**

Appendix H: Pupils Focus Group Discussion For Public Primary Schools

1. Do you pay any fee in this school? Explain
2. Do you find school physical resources adequate for learning?
3. Do you find school instructional resources available for learning?
4. Has FPE helped you in learning?
5. Do you find your teachers supportive in the learning process?

Appendix I: Map of Kisumu County



Appendix J: Consent note

This is a consent form for research involvement. It contains important information about this study and what to expect if you decide to participate. Your involvement is voluntary. Please consider the information carefully. Feel free to ask questions before making your decision whether or not to participate. If you decide to participate, you will be asked to sign this form and you can retain a copy of the form for your records.

Procedure/Tasks:

Your involvement in this study will require;

1. Read and sign this form, and return it with your completed questionnaire (retain the second copy of this consent for your records if you wish)
2. Complete the questionnaire.
3. Give back to the researcher the signed consent form and completed.

Duration:

Approximately 10 minutes. You may choose to stop completing the questionnaire at any time. If you decide to stop participating in the study, there will be no penalty to you.

There are no direct benefits to your involvement in this study. The subject of the research is related to Educational resources and pupils' performance in public primary schools. There will be no physical, legal or economic risks or harm to you as a participant.

Confidentiality:

You are not to write your name and efforts will be made to keep your study related information confidential.

Participant Rights:

You may refuse to participate in this study without penalty. By signing this form, you do not give up any personal rights you may have as a participant in study.

I have read this form and I am aware that I am being asked to participate in the research study. I voluntarily agree to participate in this study. I am not giving up any legal rights by signing this form.

Signature: ……..…….. **Date**: …….

Appendix K: MUERC Approval Letter

MASENO UNIVERSITY ETHICS REVIEW COMMITTEE

Tel: +254 057 351 622 Ext: 3050
Fax: +254 057 351 221
Private Bag – 40105, Maseno, Kenya
Email: muerc-secretariate@maseno.ac.ke

FROM: Secretary - MUERC

DATE: 28th August, 2019

TO: Joan Atieno Mutula
PG/PHD/00044/2015
Department of Educational Management and Foundations
School of Education, Maseno University
P. O. Box, Private Bag, Maseno, Kenya

REF: MSU/DRPI/MUERC/00687/19

RE: Relationship between Educational Resources and Pupils' Performance in Public Primary Schools in Kisumu County, Kenya. Proposal Reference Number MSU/DRPI/MUERC/00687/19

This is to inform you that the Maseno University Ethics Review Committee (MUERC) determined that the ethics issues were adequately addressed in the initial proposal. Consequently, the study is granted approval for implementation effective this 28th day of August, 2019 for a period of one (1) year. This is subject to getting approvals from NACOSTI and other relevant authorities.

Please note that authorization to conduct this study will automatically expire on 27th August, 2020. If you plan to continue with the study beyond this date, please submit an application for continuation approval to the MUERC Secretariat by 15th July, 2020.

Approval for continuation of the study will be subject to successful submission of an annual progress report that is to reach the MUERC Secretariat by 15th July, 2020.

Please note that any unanticipated problems resulting from the conduct of this study must be reported to MUERC. You are required to submit any proposed changes to this study to MUERC for review and approval prior to initiation. Please advice MUERC when the study is completed or discontinued.

Thank you.

Dr. Bernard Guyah
Ag. Secretary,
Maseno University Ethics Review Committee.

Cc: Chairman,
Maseno University Ethics Review Committee.

MASENO UNIVERSITY IS ISO 9001:2008 CERTIFIED

Appendix L: NACOSTI Research Licence

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **531699**

Date of Issue: **15/November/2019**

RESEARCH LICENSE

This is to Certify that Ms.. JOAN MUTULA of Maseno University, has been licensed to conduct research in Kisumu on the topic: RELATIONSHIP BETWEEN EDUCATIONAL RESOURCES AND PUPILS' PERFORMANCE IN PUBLIC PRIMARY SCHOOLS IN KISUMU COUNTY, KENYA for the period ending : 15/November/2020.

License No: **NACOSTI/P/19/2770**

531699

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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