PERCEPTIONS AND TRENDS IN ACADEMIC PERFORMANCE OF SECONDARY SCHOOL STUDENTS WITH A PUBLIC AND PRIVATE PRIMARY SCHOOLS BACKGROUND: A CASE OF ALLIANCE NATIONAL SECONDARY SCHOOLS, KENYA.

BY

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DECLARATION

Declaration by Candidate

This thesis is my original work and has not been presented for a degree in this or any other university. No part of it should be used without prior permission of the author and/ or Moi University.

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DEDICATION

I dedicate this work to members of my family who have stood by me throughout the course**.**

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ABSTRACT

An impact of the affirmative action in the admission of KCPE Examination candidates from public primary schools to national secondary schools was more of them being admitted to these schools but with lower KCPE examination mean scores than those from private primary schools. The purpose of this quantitative study was to find out whether the students' primary school background (public or private) had a significant influence on the students' academic performance and their perception of the secondary school environment. The objectives of the study were to find out whether there was statistically significant differences in the KCPE Examination mean scores in the core subjects between public and private primary school graduates as well as in their progressive secondary school examination mean scores. The study's theoretical framework was hinged on Social Learning Theory. The study was *ex-post facto* in design and purposively selected Alliance National Secondary Schools. Further, purposive and census sampling was used to select the entire cohort of form three students that sat for their KCPE examination in 2014. Document analysis was used as the main method of collecting data but was supported by a Learners' and Teachers' Questionnaire. Data analysis using t test revealed that there was a statistically significant difference in KCPE Examination mean scores between public and private primary school graduates in the core subjects (Mathematics $t(705) = -3.826$, $p = .000$, English $t(705) = -5.695$, $p = .000$ Kiswahili $t(705) = -3718$, $p = .000$).There was also a statistically significant difference in the teachers' perception of the academic performance of public and private primary school graduates ($t(17)=2.772$, $p= .013$). Students too had a significant difference in their perception of the secondary and primary school learning environment ($t(335) =7.550$, $p=.000$). One – way ANOVA test results indicated that there was a statistically significant difference in the progressive secondary school English examination mean scores between public and private primary school graduates ($F1, 689) =14.06$, $p=0.00$). Further linear regression analysis revealed that KCPE Examination means scores in the core subjects had a significant effect on the progressive secondary examinations mean scores in the respective subjects (English $t=4.543$, $p=.000$, Kiswahili $t=25.226$, $p=.000$ and Mathematics $t=7.052$, $p=.000$) among public primary school graduates and also among private primary school ones English ($t=5.234$, $p=.000$) Kiswahili, ($t=5.586$, $p=.000$) and Mathematics ($t=6.305$, $p=.000$). The study concluded that private primary school graduates in Alliance national secondary schools continued to outperform their public primary school counterparts in the secondary school examinations in the core subjects. Further, the more favourable perception of the public primary school graduates' academic performance by their teachers was not based on their actual academic performance. The study recommends replication of the study in other national schools and in the students overall academic performance in all subjects.

LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA	-	Analysis of Variance
CEP	-	Centre of Education Policy
CRA	-	Commission on Revenue Allocation
FPE	–	Free Primary Education
KESSP	-	Kenya Education Sector Support Programme
KCPE	–	Kenya Certificate of Primary Education Examination
KCSE	-	Kenya Certificate of Secondary Education Examination
KIE	–	Kenya Institute of Education
KNEC	–	Kenya National Examination Council
MOE	–	Ministry of Education
NAEP	-	National Assessment of Education Progress
UNESCO	–	United Nations Education Science Cultural Organization
QASO	–	Quality Assura nce and Standards Officer
SACMEQ	-	Southern and Eastern Africa Consortium for Monitoring Education Quality
SES	-	Social Economic Status
SMASSE	-	Strengthening of Mathematics and Sciences in Secondary Education.
SPSS	-	Statistical Package for Social Sciences
TAC	–	Teacher Advisory Cent

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Admission of learners to Kenya's national secondary schools has over the years been based on choice and merit that take into account end of primary school KCPE examination mean scores of the candidates who wish to join each of the national secondary schools. However in 2011, the government of Kenya came up with a policy that in addition to merit also introduced affirmative action in admission to these very competitive national secondary schools favouring public primary school graduates (Matiang'i, 2016). The purpose of the study was to find out whether the disparity in KCPE examination mean scores between candidates from public and private primary schools admitted to national secondary school brought about by the affirmative action was significant. The most popular national secondary schools, Alliance boys' and Alliance girls' high school were taken as a case study. Further, the study investigated whether these disparities continued as students progressed through secondary school education. This was in addition to an exploration on the extent to which the overall KCPE examination mean scores in English, Kiswahili and Mathematics explained the overall progressive secondary school examinations mean scores in the same subjects. The three subjects were selected because they are core subjects that all secondary school students sit for at the end of the national secondary school education (KCSE) examination in Kenya. Since the teachers knew the students form public and private primary schools were admitted with different KCPE mean scores, the study investigated whether this affected their perception of the academic performance of the two groups of students. Lastly the study explored the satisfaction of the students with the learning

environment in these very competitive national secondary schools by comparing their perception of this learning environment and that of the primary school they attended.

The background of the study is the first to be discussed followed by statement of the problem and purpose of the study in that order. The objectives of the study and the accompanying hypotheses are next before the assumptions and justification of the study are discussed. Scope, limitation of the study, theoretical and conceptual framework follow and the chapter ends with a definition of operational terms and chapter summary.

1.2 Background of the Study

Primary school education is primarily concerned with the provision of the literacy and numeracy skills to children and also develop the understanding of the ever changing world. These skills are considered critical for survival in the modern world and the growth of the economies. Due to its perceived importance, primary school education has been made compulsory in most countries of the world (Roser & Ortiz-Ospina (2018). Secondary school education on the other hand is seen as means of promoting economic growth and social development (World Bank, 2008). To individuals, secondary school education is seen as means of social and economic mobility as it is a prerequisite to further training for formal employment (Lewin 2007). Further, secondary school education is viewed by Roberts-Schweitzer (2006) as a means of prompting social cohesion through trust and tolerance that is cultivated as students interact in schools.

Children spend different number of years before transiting to secondary schools. In Germany for instance, children transit to junior secondary school after four years of primary school education except in Berlin and Brandenburg which is six years (Griebel & Berwanger, 2006). In their description of education in Kenya, Lucas and Mbiti (2011) inform that primary school pupils join secondary schools after completing eight

years of primary school education marked by sitting for KCPE examination. Based on their performance in KCPE examinations, the pupils are admitted to Kenyan public secondary schools that are in four categories namely national, extra- county, county and sub-county secondary schools. Based on KCPE examination merit, national secondary schools admit KCPE examination candidates from all over the country while county secondary schools admit majority of their students from the county in which the school is located. Admission into this category of secondary schools is done using a scientific method that ensure candidates are not disadvantaged due to gender, centre in which they did the examination or region in the country where they come from (Matiang'i, 2016) Sub-county secondary schools which are mainly day admit students from within the close proximity of the school. Lucas and Mbiti are quick to highlight the wide disparity in the quality of education offered in the three categories of secondary schools in Kenya as measured by their performance at KCSE examination. Of the three categories of secondary schools, national schools are considered by parents and students as the most prestigious, followed by county and sub-county secondary schools respectively National secondary schools, which admit the best KCPE candidates from across the country, are popular mainly because students in these schools perform better in their Kenya Certificate of Secondary School (KCSE) examination when compared with the other category of schools. For example the 2011 KCSE examination result analysis revealed that out of the best 30 schools nationally, 29 were national schools (Kenya National Examination Council-KNEC, 2012b).

Students in national secondary schools are thought to perform better than those in other categories of secondary schools because they are among the best in the country having been admitted on merit to these academically selective secondary schools. Secondly, the national secondary schools are also better equipped and staffed and are thus

assumed to offer a better learning environment when compared to most schools in the other categories (Lucas & Mbiti, 2011). National secondary schools are therefore thought to offer the best quality education followed by county and sub-county secondary schools respectively. Glennerstar, et al (2011) further contend that the difference in performance across different types of schools reflect their differences in facilities, teachers and other resources. They argue that National secondary schools are considered elite and prestigious because they have better facilities that enable them offer a wider range of subjects, making them centers of excellence. Nyatuka and Bota (2014) summarize the reason for the popularity of national secondary schools by stating

> "*Most citizens crave for national secondary schools due to quality of facilities available, government support they receive and above all, the impressive results they post at the public examinations". (P 49)*

Due to the extemporary performance of the students in some selected national secondary schools at KCSE examination when compared to the other category of schools, admission to these schools is a dream for almost all KCPE examination candidates (Lucas & Mbiti, 2011; Oketch & Somerset, 2010). The authors attribute this to the large impact the superior academic performance have on the students who do well in KCSE examination.. Most of the graduates from these schools have a better advantage of being admitted to universities both locally and abroad. Oketch and Somerset point out that a typical student from a national secondary school has a better-than-even chance of qualifying for a regular place at a public university compared with a chance of about one-in-twelve for a typical county-school graduate. There is therefore a high competition for the few selected places in these prestigious secondary schools.

Among the most popular national secondary schools in Kenya are Alliance Boys and Alliance Girls' high schools which were the first secondary schools for African boys and girls respectively. They were established when Kenya was under British colonial

rule (Bogonko, 1992). Alliance boys' high school was the first to be established in 1926 by the Alliance of Protestant Churches, specifically the Church of Scotland Mission which was later named Presbyterian Church of East Africa (PCEA). Alliance girls was established later in 1948 by the same mission at the same place. Bogonko further notes that the two schools began by admitting students from different provinces in Kenya to have a national outlook in their student population which they retained to date. Alliance boys has always been ranked among the best ten in the country making it one of the highest performing high schools in the country academically (KNEC 2009, 2010,2011, 2012). The same case applies to the performance of Alliance girls' high school. As a result, the two schools have been among the most popular due to their good performance in KCSE national examinations. Being among the oldest national schools in the country and having had impressive performance in the end of secondary school education examinations, the popularity of the Alliance secondary schools has continued to soar. Competition for vacancies in the schools is thus very stiff (Glennerstar, et al.2011)

The analysis by Kenya National Examination Council (KNEC, 2008, 2009, 2010, 2011, 2012a & 2013) show that KCPE examination candidates from private schools have had a better chance of admission to the competitive national secondary schools than their public primary school graduates. The analysis of KCPE examination by KNEC further reveals that the reason is because in the primary school sector, private primary schools have over the years outperformed the public primary schools at KCPE examination. In 2004 for instance Glennerster, et al. (2011) point out that 77% of private primary school KCPE candidates qualified to join secondary schools compared to 45% in public primary schools. Consequently, students from private primary schools end up being over represented in national secondary schools that admit the best KCPE candidates on

merit. The authors observes that while only about 10% of KCPE candidates are from private schools, about 50% % of those admitted to national secondary schools are from private schools.

Affirmative action policy on the admission of student's into national secondary schools that is in favour of students from public primary schools was thus introduced to ensure no KCPE examination candidate was disadvantaged due to the kind of school one sat for KCPE examination (Matiang'i, 2016)**.** Admission to national schools as from 2011 was such that the top two KCPE candidates per district (both gender) are selected to the national school of their choice. This is if an allocation has been provided for the district in the primary school they registered for KCPE examination (Ministry of Education-MoE, 2011). Selection of other national quota is based on candidates' ratio from public and private school KCPE examination candidates. This has resulted in more KCPE candidates who schooled in public primary schools accessing education in national schools unlike before.

The reasoning of the affirmative action could be attributed to finding that better learning environment with adequate learning resources and physical infrastructure have been found to have a positive effect on academic achievement among Kenyan primary school learners (Wasanga, Wambua & Ogle, 2011). However Hungi (2011), Wasanga, Wambua and Ogle (2011) linked higher examinations mean scores of students from private primary schools to their advantaged social background. The authors observe that leaners from private schools normally come from more advantaged social background in terms of Social-Economic Status (SES). Further they found SES to have had a significant influence on the students' academic achievement. However, critics of this affirmative action policy in admission to national secondary schools argue that the policy does not recognize the importance of merit in accessing the few vacancies at

these centers of excellence(Kihuria,2015; Oduor, 2014) The government of Kenya on the other hand is of the opinion that pupils from public primary schools fail to match the performance of their private primary school counterparts due to their disadvantaged learning environment that has been characterized by inadequate learning resources and teaching workforce (Ongaki & Musa, 2014).

The difference in the performance at the end of primary school KCPE examination by pupils from private primary schools has been of concern to education experts as well as the general public in Kenya (Kigotho, 2012; Otieno, 2010; Shulebora, 2010). Among the curriculum planners, this phenomenon has been of interest because one of the objectives of the KCPE examination which is a summative evaluation is that of evaluating the primary school curriculum at the end of its eight years cycle. This is in order to find out the extent to which learners have mastered the basic concepts they were supposed to have learnt (Otunga, Odero & Barasa 2011). Any difference in examination performance between the public and private school may therefore imply existence of a problem in curriculum implementation.

There has been some observation that there is undue emphasis on national examinations in teaching as a result of their being high stake. For example, Kenya Certificate of Primary Education (KCPE) examination done at the end of eight years of primary education is used among other purposes as an objective basis for determining learners to be promoted on merit to the three categories of secondary schools namely national, county and district secondary schools (Lucas & Mbiti; 2011, Otunga, Odero, & Barasa, 2011, Ministry of Education & Ministry of Higher Education, Science and Technology, 2012). Kenya Certificate of Secondary School Education (KCSE) examination on the other hand is used to select those joining universities and other middle level colleges.

The emphasis on examination in the curriculum implementation has been observed to result in skewed pedagogical practices that aim at making student pass national examinations as opposed to gaining the required competencies as revealed by the curriculum summative evaluation (KIE, 2010). According to KIE, Such skewed pedagogical practices identified by the summative evaluation include rote- learning. The consequence has been ignoring of imparting the right attitudes and values, practical skills and producing an all-round person that has been emphasized by the various education commissions in Kenya (Ojiambo, 2009).Therefore high performance in national examinations appears to be the sole yardstick used in measuring the quality of education in Kenya.

The researcher allude to the possibility of the difference in prior achievement as measured by KCPE examination between the public and private primary school graduates being partly contributed by the difference in the extent to which skewed pedagogical practices such as rote-learning had been used in the respective primary school backgrounds. This is because as pointed out by Ornstein & Hunkins (1998) that where high stake examinations are a major concern, teachers are likely tend to teach the goals and objectives of the examinations rather than of the curriculum. Teachers in private primary schools are in a better position to do this as their schools can afford and are willing to meet the cost of this practice. This is because good performance in national examination improves their prestige. Ornstein and Hunkins are of the opinion that for teaching for tests to happen;

> Teachers actually teach the test, frequently using sample items from the test to coach their students to do well. And while scores are usually high in such instances one wonders whether this is really evidence of students learning more and of high quality curricula. (P. 341)

It is for this reason that concern has been raised on whether the high KCPE examinations mean scores among KCPE candidates from private schools is a true measure of their academic ability (Ministry of Education and Ministry of Higher Education, Science and Technology, 2012). However, numerous studies have singled out prior academic achievement as a factor that account for most of the variance in educational attainment (Rogers, et al., 1999; Sparks, 1999;Xin Ma, Klinger & Dawber, 2006). Based on these studies, there is concern that the implementation of the affirmative action may have a likely possibility of compromising academic performance in these centers of excellence. This is because it has resulted in a large disparity among public and private primary school graduates in the prior academic achievement as measured by KCPE examination mean scores. However, studies conducted in county(formerly provincial) secondary schools in different parts of Kenya by Ndirangu, Githua & Gitogo(2005) and Waweru (2011) found students who went to private primary schools scoring lower than their counterparts from pubic primary schools in KCSE examination though having been admitted with higher KCPE examination mean scores. The findings of the two studies appear to justify affirmative action in student admission to national schools. However the two cited studies also cast doubt on the accuracy of KCPE examination in assessing candidates' academic potential.

The disparity cited by the two studies was considered a problem worth investigating further. In the review of literature, the researcher did not find studies that investigated the possibility of a difference in academic performance between students with a public and private primary school background studying in national secondary schools. It is therefore not clear whether their performance trend is the same as that found among students in county secondary schools in the two studies cited. It is out of this concern

that this study aimed at finding out if there was a difference in the academic performance among the two groups of students when learning under a similar learning environment. National secondary schools are perceived as academically superior due to the exemplary performance of their students at KCSE examination. It is however unclear whether their superior performance simply reflect their selective admission of the best learners in the country or value added learning (Lucas & Mbiti, 2011). The disparity in prior KCPE examination brought about by the new national school admission criteria therefore offers an opportunity to investigate the extent to which these schools add value to the students especially those with lower entry grade.

National secondary school teachers' perception of the students they teach was also investigated in this study. Teachers play an important role in their learners' academic achievement. Motivation of students to learning which if positive promotes learning has been found to be influenced by the students' perception about the expectation their teachers have on their academic achievement (Muller, Katz & Dance, 1999). The students are more motivated when they perceive their teachers as having a high expectation on their academic achievement because they work hard to match their teachers' expectations. Not much attention have been given to national secondary school teachers' perception of their students' academic performance. This study therefore further explores the Alliance national secondary school teachers' perception of the students admitted the schools. This was meant to find out whether teachers had a different perception of the students admitted from public and private primary schools particularly because the two groups of students were admitted with different KCPE examination mean grades. Whether the popularity of the national secondary schools in Kenya is matched with the students' satisfaction with the school learning environment is an area that that the researcher considered of concern. A fulfilling's learning

environment is crucial for students' academic success (Freigberg, 1999). It is for this reason that this study further found it necessary to investigate the Alliance national secondary school students' perception of their school learning environment. Comparing the students' perception of their secondary school environment and that of the primary schools they attended was expected to provide a guide on the level of satisfaction and extent of the fulfillment of the students' expectation on national secondary school learning environment.

1.3 Statement of the Problem

The affirmative action policy in Kenya on admission KCPE candidates to national secondary schools that favours those from public primary schools has resulted in a large number of the being admitted with lower KCPE examination mean scores. There is concern that this large number of learners from public primary schools might lower academic performance in these centers of excellence. Secondly, the affirmative action policy has also resulted in two distinct groups of students. Those from public primary schools admitted with lower KCPE mean scores and those from private primary schools admitted with higher KCPE mean scores. There is a possibility that the teachers in national secondary schools may form their perception of these two groups of students based on their primary school background. The Alliance national high schools have been the most popular secondary schools in Kenya. It has however not been clearly established whether the expectations of student admitted to these two prestigious high schools are actually met. It was for these reasons that the need for the investigation possible differences in academic achievement between the students admitted to national secondary schools from public and private primary schools was found necessary. This was in addition to the perception of their teachers on the academic performance of the two groups of students. This was found necessary especially because the affirmative

action policy is a recent phenomenon and as such, few research studies have investigated its impact on academic achievement. This study aimed at assisting in filling this gap by investigating the nature of the relationship between KCPE examination mean scores and the secondary school academic performance among these two groups of students who are among the best in the country.

1.4 Purpose of the Study

By investigating the academic performance of national secondary school students, their perception of the learning environment and the perception their teachers hold on them, this research aimed at finding out whether the primary school background had an influence their secondary school academic performance. The addition gap that the study attempted to fill was whether the perception the national secondary school teachers hold on their students is influenced by their primary school background.

1.5 Objectives of the Study

The specific objectives of the study are:-

i) To find out whether there were significant differences in KCPE examination mean scores in the core subjects between students who schooled in public primary schools and those who schooled in private primary schools admitted to Alliance national secondary schools.

ii) To compare the academic performance trends in the core subjects between the students who schooled in public primary schools and those who schooled in private primary schools admitted to Alliance national secondary schools.

iii) To examine the relationship between KCPE examination mean scores and the progressive secondary school examination mean scores in the core

subjects among students with public primary school background admitted to Alliance national secondary schools.

iv) To examine the relationship between KCPE examination mean scores and the progressive secondary school examination mean scores in the core subjects among students with private primary school background admitted to Alliance national secondary schools.

v) To analyse the teachers' perception regarding academic performance of secondary school students with public primary school background and those with private school background admitted to Alliance national secondary schools.

vi) To analyze the students' perception of the learning environment of both the primary schools they attended and that of the Alliance national secondary schools.

1.6 Research Hypotheses

Ho 1. There is no statistically significant difference in KCPE examination mean scores in the core subjects between students who schooled in public primary schools and those who schooled in private primary schools admitted to Alliance national secondary schools.

Ho.2 There is no statistically significant differences in the progressive secondary school examination mean scores in the core subjects between students who schooled in public primary school and those who schooled in private primary schools admitted at Alliance national schools.

Ho 3. KCPE examination mean scores in the core subjects have no statistically significant influence on the progressive secondary school examination mean

scores in the respective core subjects among public primary schools graduates admitted to Alliance national secondary schools

Ho 4. KCPE examination mean scores in the core subjects have no statistically significant influence on the progressive secondary school examination mean scores in the respective core subjects among private primary schools graduates admitted to Alliance national secondary schools

Ho5 There was no statistically significant difference in the teachers' perception on the students 'academic performance between students who are graduates of public primary schools and those who are graduates of private primary schools admitted to Alliance national secondary schools

Ho6 There was no statistically significant difference between the students' perception of the learning environment of the primary school they attended and that of the Alliance national secondary schools.

1.7 Assumptions of the Study

The following are the assumptions of the study

1. The Alliance national secondary school environment impacted in the same way to all the learners.
2. All learners in Alliance the Alliance national secondary schools were admitted purely on merit and quota allocated.
3. The secondary school administration in the selected schools would cooperate and provide all the required information.

4. The students under investigation have similar academic potential since they were among the very best at KCPE examination in their respective sub-counties.

1.8 Justification for the Study

Merit in tests and examinations have been used as a basis of grouping students according to their academic abilities for various purposes worldwide. In Kenya results of national examinations are used to select students to proceed to the next level of education. However, there is a wide disparity in the primary school learning environment experienced by learners in public and private primary schools in Kenya.

The rationale of this study was that all learners should be given equal opportunities in accessing quality education regardless of their circumstances. This is to enable them exploit their academic potential fully so that the curriculum offered in Kenyan schools enable the achievement of national goals of education and realization of the country's vision 2030. Any doubt therefore that maybe raised on the ability of education system in addressing the needs of all learners need to be thoroughly investigated. This is because implementation of the curriculum should be such that it takes into account the leaner's unique characteristics and offer mitigation where need be so that all learners have equal chances of fully developing their inherent academic potential.

Secondly, Alliance national secondary schools are so competitive that they admit the very best students in the country who can be regarded as academically talented. It is for this reason the school was sampled for the study since the researcher considers the academic performance of the best students in the country in KCPE examination important and worth being investigated.

Thirdly, a trend in academic performance is the main focus of the study as opposed to summative end of the course national examination. This was because the progressive formative evaluation through school tests was considered by the researcher as a better measure of student's academic ability than performance in the high stake summative evaluation of national examinations. Moreover, a progressive evaluation framework is being recommended in the Kenyan curriculum in order to avoid undue emphasis in examination. (KIE, 2010; Ministry of Education, 2012; Ministry of Education & Ministry of Higher Education, Science and Technology, 2012).

Lastly, the performance in the core subjects was of particular interest because the subjects have been characterized by poor performance in the secondary school national examination (Ministry of Education, Science and Technology, 2003). Yet, Kiswahili and English are the official languages and are seen as important avenues through which the national goal of education of fostering nationalism, patriotism and promotion of national unity is to be achieved (Ministry of Education, 2012). This is one of the educational goals that have not been fully achieved according to the 2012 summative curriculum evaluation of the secondary school education. English is also the medium of instruction and the most commonly used official language of the two. In addition, Mathematics together with Sciences are taken as key prerequisite in the training of personnel needed for achievement of the country's vision 2030 (Ministry of Education & Ministry of Higher Education, Science and Technology, 2012) .

1.9 Significance of the study

The findings of the study were expected to add to the body of knowledge that identifies the factors that influence academic performance especially among the above average students in national secondary school students. The information would be particularly useful to curriculum planners in pointing out at areas that emphasis in curriculum

planning and implementation need to be placed especially in the core subjects that are meant to promote achievement of important national goals of education. Secondly the finding would provide useful information to education planners in making decisions on education policies addressing education inequalities such as those on selection of students joining academically competitive institutions of higher learning.

The finding of the study would be useful to the teachers. It would make them evaluate the perception they may hold on their students as especially those based on the students' background. Being aware of the perceptions they may have would enable them work towards ensuring the perceptions do not affect the way they interact with the students in a way that negatively affect them.

Primary school pupils and especially KCPE candidates and their parents would also benefit from the finding on the perception the students in Alliance secondary schools have of their learning environment. The information obtained would enable them make informed decision when choosing secondary schools they would wish to be admitted. This would be in addition to making them have a reasonable expectation of the Alliance national secondary school learning environment.

1.10 Scope of the Study

The study was carried out in Alliance boys' and Alliance girl's high school in Kiambu County Kenya. The two schools are among the most popular national secondary schools due to their students' impressive performance at KCSE examination. This makes the schools a perfect choice when the best KCPE examination candidates are a subject of study as in this research.

The performance in secondary school examinations in core subjects in secondary school education in Kenya namely Mathematics, English and Kiswahili were used as a

basis of the study. This was because the core subjects are expected to provide the knowledge and skills expected for one to fit well in a given society. The cohort students admitted to the two schools in 2015 were selected for the study. It was the second cohort of students that were admitted to national secondary schools under the affirmative action policy in favour of public primary school graduates. The cohort that was in form three at the time of collecting data was therefore selected because it availed the required number of students with both public and private primary schools background needed for the study. Since the study intended to evaluate the progressive academic performance of the students as they progressed through secondary school education, this cohort was in addition considered appropriate because it had been in the schools for three years.

1.11 Limitation of the Study

Clear identification of the category of primary school the students went to was limitation of the study. This was because there is some tendencies among parents to have their children study in private primary school but register for their KCPE examination in public primary schools. This is meant to improve their chances of being admitted to national secondary schools. To overcome this limitation, official records on the category of primary school the student sat for their KCPE was compared with the information the students gave on where they studied most of the years between class six and eight in the questionnaire. The information from the students' questionnaire overrode the one from the official record wherever there was a discrepancy between the two.

1.12 Delimitation of the Study

The study was confined to Alliance Boys' and Alliance Girls' national secondary schools in Kiambu county Kenya. Only the cohort of student admitted to the school in 2015 was selected for the study. The finding of the study may therefore only be generalized to students in other national schools that have a comparable learning environment and student's composition.

1.13 Theoretical Framework.

The study was anchored on the Social Learning Theory advanced by Bandura (1977) which states that behavior is learned from the environment through the process of observational learning. In society, children are in contact with other people who include their parents, teachers, peer groups and characters in the TV and social networks such as those found in the internet. The people children interact with act as models whom they copy and imitate their observed behavior (Macleaon, 2011, North Arizona University, undated). Macleaon hypothesize that behavior of an observed model is likely to be imitated by children if it is exhibited by people perceived to be similar to them. In this context boys are likely to imitate male models and girls female models. Secondly, the response of the people around the children towards the imitated behavior will determines whether the imitated behavior is persistent. Children are more likely to continue with behavior whose consequences are rewarding. Thirdly, children take into account what happens to other people when making decisions on copying their observed behavior. They are more likely to imitate behavior of models that possess qualities that are seen to be rewarding. These are behaviors that appear to result in reduction of tension, the gain of financial rewards or the gain of praise of others that result in building esteem (North Arizona University undated). Thus, the theory views human action as a result of the interplay of cognitive, behavioral and environmental

factors that influence the individual to act within a social and cultural content (Bandura, 1985).

Based on this theory, the researcher views academic achievement as consequent of learning. Learning which is the observable behavior that is of interest to the study is influenced by both the intellectual potential of a learner which is inherited, observed behavior (learning) of others and the environmental factors surrounding the learner. Behavioral factors will be actions of those people the learners are in contact with. It is from the variety of these people that they draw the models whose behaviors (learning) they imitate. These are parents, peers, teachers and other influential people around them. The more individuals with a variety and rich observable characteristics an environment will have, the more it will be conducive for learning. This is because they have a better chance of interacting with more models and observe those qualities that they later imitate. Secondly, more models offers a good opportunity for the learners to observe what happens to those who take learning seriously. The consequence of such action includes but is not limited to satisfying careers that are highly paying.

The students under investigation are taken to have similar academic potential bearing in mind that they were among the best at KCPE examination in their respective learning environments. However their learning environment was different in terms of kinds of models available for observation and imitating as well as their observable behavior. The research aimed to find out whether the new national secondary school learning environment interactions that have different models that are similar will have same impact on all students regardless of their background or whether the prior experience before joining national secondary school would continue to bear significant influence on their academic performance.

1.14 Conceptual Framework

The independent variables in the study were category of primary school attended, KCPE examination mean scores in the core subjects, and the students' perception of the learning environment of the primary school they attended. The dependent variable were KCPE examination mean score in the core subjects, progressive secondary school examination mean scores and the students' perception of the secondary school learning environment. This was in addition to the teachers perception of the students' academic performance. KCPE examination means score is also a dependent variable in hypothesis one which aimed at finding out whether the differences in KCPE examination means scores in the core subjects were indeed significant. It is important to note that the independent variables also influence one another in an intricate pattern as shown in the figure 1. 1

CONCEPTUAL FRAMEWORK

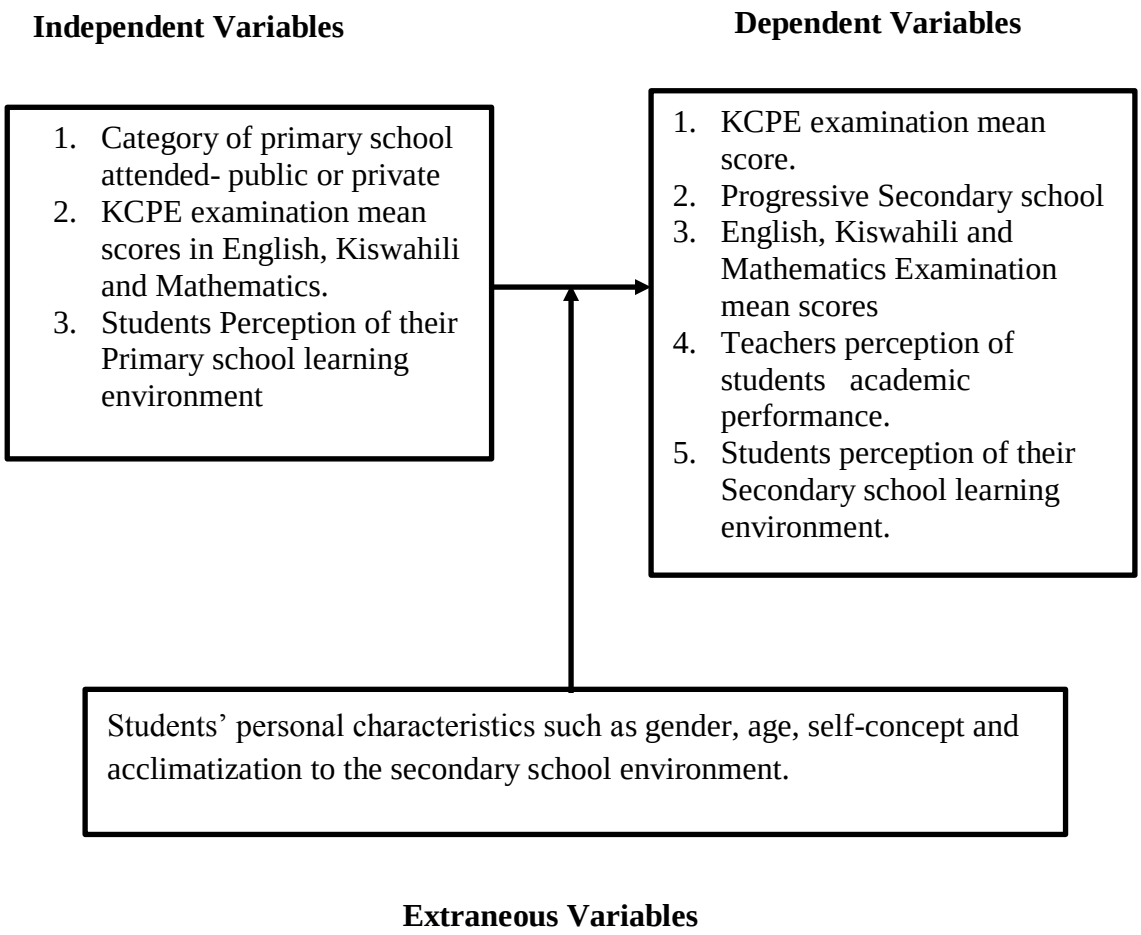

Figure 1.1: Diagrammatic representations of variables in the study

Prior achievement at KCPE examination is viewed as being influenced by category of primary school attended. Student's secondary school academic performance on the other hand is viewed as being mainly influenced by three factors namely students 'prior academic achievement at KCPE examination, category of primary school attended and the secondary school learning environment. These four independent variables are thought to influence secondary school performance together with extraneous variables at varying degrees. In addition some extraneous variables that include student's personal characteristics such as gender, motivation, age and family background are also thought to have some effect on the secondary school academic performance. The sampling procedure that includes students of both gender and students of different ages as in the general students' population was expected to control for these extraneous variables.

Classifying students as those with a public and private primary school background is taken to represent the two extremes in family Social- Economic Status. As such analyzing data according to category of primary school attended control for most of the family background extraneous variable. Being among the best students in the country, it was assumed that they were all generally motivated to learn and as such this factor is not expected to have a major impact on their academic performance. The study aimed at finding the relationship between these independent variables and the dependent variable which was the progressive academic performance of students as they progressed through secondary school education. In addition, the research investigated whether there was a significant difference in the students' perception of their primary school learning environment and that of Alliance high school learning environment.

1.14 Operational definition of terms

Affirmative action-The policy introduced by the government of admitting KCPE candidates from public and private primary schools to national schools based on merit and in addition proportion of the number students registered for KCPE examination.

Alliance national secondary schools. Refers to Alliance boys high school and Alliance girls' high school both of which have been the most popular national secondary school in Kenya in the recent years

Academic achievement- Students cumulative average scores in Mathematics, English and Kiswahili in school exams at form one, two, and three.

Core Subjects- In this study core subject referred to the compulsory subjects in secondary school education namely Mathematics, English and Kiswahili.

Facilities:-Equipment and any other physical material that facilitates provision of education in schools

General classroom learning environment- The status of the physical and learning resources, kind of interaction between the leaners themselves, the learners and teachers and learners and the school administration in a school .

High Achievers- The pupils who are among the very best in KCPE examination in each sub county and are admitted to national secondary schools.

KCPE Examination means score- The students' average means score at the end of primary school education examination commonly referred to as KCPE examination

KUCCPS. Kenya Universities and Colleges Central Placement Service.

Low achievers- The KCPE candidates who had a mean score of below 250

Motivation- Social, emotional and cognitive drives that activate student's behavior towards having a continuous desire to maximize their academic potential.

National Secondary School - A secondary school registered as a national school by the Ministry of education and admits students based on KCPE examination merit from all sub-counties of Kenya based on the prescribed quota.

Performance trends-The pattern of academic performance among secondary school students as they progressed through secondary school education.

Public Primary School - A primary school that is registered by the Ministry of Education as a public school and is funded by the central government through FPE.

Private Primary School- A primary school that is registered by the Ministry of Education as a private school and is owned by an individual or a private entity and is not funded by the government through FPE.

Resources- Human skills, knowledge, attitudes and values as well as physical materials that play an important role in the implementation of teaching learning process.

School learning environment. This includes students' opinion of the school setting as it relates to the relationships among students themselves, student to teacher and students to school administration relationships. It also include the students perception of the school infrastructure, physical facilities and learning resources all geared towards making students excel in their studies.

Social Economic Status (SES) - Social standing or class of the student family which is measured by home possessions.

Student's perception- students' attitudes and feelings on the general school learning environment

Students' Personal characteristics- Characteristics that are unique to individual students and are likely to have impact on achievement such as age, motivation, attitude towards education, teachers and school.

Students' secondary school academic performance- Student's grades in teacher prepared tests during the end of year one, two and mid-term two form three of secondary school education in Mathematics, English and Kiswahili.

Secondary school examination trend- The pattern in the students' academic performance in the end of year one, two and end of term two examination in form three in each of the three core subjects- English, Kiswahili and Mathematics.

Teachers' perception -The teacher's attitude or understanding on student academic performance based on other factors other than student current academic attainment.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will review the available literature in terms of findings from empirical studies as well as official records in order to be able to place the proposed study in the context of previous research studies both within Kenya as well as the rest of the world. The topics under which literature will be reviewed are; secondary school education in Kenya, performance of learners in public and private schools, learners' intellectual ability, prior achievement and academic performance, teachers' perception on students' academic ability and research findings related to the area of study.

2.2 Secondary School Education

According to UNESCO (2005), Secondary school education in most countries of the world follow that of primary education phase and is given to the youth during their development stage of adolescence. The adolescence phase is characterized with rapid physical, mental and emotional growth and is the stage in which important values and attitudes are formed. UNESCO further observes that the society today is experiencing rapid globalization and development in Information and Technology (ICT). Secondary school learners therefore need to be equipped with the relevant knowledge and skills that would enable them acquire responsible personalities, be productive and have the required knowledge and skills to survive well in the current society that is both technology and knowledge based. These important skills include analytical and problem-solving skills, creativity, flexibility, mobility and entrepreneurship skills. It is for this reason that secondary school education is regarded as basic in most developed and developing countries.

However only 84% of the total number of children meant to be in secondary school are in school and the number drops down to 70% in low income countries (UNICEF, 2018). Further, data collected in 128 countries between 2010 and 2015 revealed that in 40 of the countries, less than one in four young people completed secondary school education while in 60 others, one in less than two. Only 14 countries had a completion rate of at least 90 %.(UNESCO, 2017). There is therefore a problem of access to secondary school education globally.

In Kenya, the fourteen to seventeen year old adolescents who join secondary school education in Kenya take four year to complete the course. This is after completing eight year of primary school education and sitting and successfully passing the very competitive KCPE examination done at the end of the eight years (Bogonko, 1992). At the end of the four years secondary school education, the students sit for KCSE examination which determines selection of those to join university education. The KCSE examination is also very competitive and only about eleven percent of the students who sit for the examination qualify to join the public and private universities in Kenya (Shimanda, 2010). For instance of the 615, 773 students who sat for their KCSE examination in 2017, only a total of 69, 151 students scored C+ and above which the minimum mean grade required for one join university in Kenya(KUCCPS, 2018). 62,851 of them were successfully placed to the degree courses of their choice. However 5,747 students who had attained the required minimum qualification were not admitted to the universities.

The four years secondary school education in Kenya under 8-4-4 system of education is meant to develop and prepare the youth of the country for further education training and work (Bogonko, 2011).This is meant to be achieved through a broad based

curriculum that comprises of both core (compulsory) and a variety of elective subjects. The core subjects in group one are English, Kiswahili and Mathematics. Elective subjects comprise of science subjects that include Biology, Physics, Chemistry and Biological Science (taken by blind candidates) are in group two. Group three comprise of humanity subjects that include History and Government, Geography, Christian Religious Education, Islamic Religious Education and Hindu Religious Education. In group four is Home Science, Art and Design, Agriculture, Computer Studies, Aviation, Woodwork, Metalwork and Technical drawing while in group five is French, German, Arabic, Music, and Business Studies (Otunga, Odero & Barasa, 2011). Physical education is done by all students but is not examinable. In order to improve quality and ensure the secondary education continues to adequately address the needs of the Kenya society, the secondary school curriculum undergoes continuous review with the last one being held in the year 2002 (KIE, 2010). However, In spite of the review of the curriculum, the Sessional Paper number 1 of 2005 on a Policy Framework for Education, Training and Research noted that the secondary school education was characterized by poor performance in national examinations (Ministry of Education, Science and Technology, 2003). The poor performance especially in core subjects was partly attributed to shortage of trained, inadequate teaching/ learning materials, lack of motivation and poor attitudes by both teachers and students (Mbugua et al. (2012). Cultural practices such as frequent use of mother tongue and Kiswahili were also identified as causes of poor performance of English language in national examinations (Kisaka, 2015).

Though the general aims of secondary school curriculum under 8-4.4 system were generally accepted, the content was found to be too wide to be adequately covered within the time allocated. For example, before the rationalization of the secondary

school curriculum, it had thirty two different subjects that were on offer and students had to sit for ten subjects at the end of the secondary school cycle (MoE, 2012). Monitoring of the curriculum that was carried out in the year 2004, 2005 and 2007 found the quality of the curriculum was being affected by inadequate preparation of teachers, inadequate curriculum support materials and its broad content (KIE, 2010b). In order to improve on the quality of secondary school education as well as ensure it adequately addressed the needs of the society, the 8-4-4 secondary school curriculum has been rationalized and continually revised. The curriculum was for instance reviewed in the year 2002 and implementation of the new rationalized curriculum started in phases from the year 2003 and was completed in 2006 (KIE, 2012b).

However, in spite of the revisions of the curriculum, the summative evaluation report of the year 2010 found that objectives of the secondary school education curriculum had not been fully met as envisaged in the year 2002 curriculum rationalization and revision. Graduates of secondary school education for instance were found to be deficient in practical skills as secondary school education concentrated more on theoretical skills as opposed to practical skills. Acquisition of competencies necessary to effectively function in a knowledge based economy was negatively affected by lack of effective ICT integration (KIE, 2012).

In order to address the above as well as align the curriculum to the new constitution of the year 2010 and address the dictates of the country's vision 2030, an education Task Force on the Re-alignment of the Education Sector to Vision 2030 and the Constitution of Kenya 2010 was formed (MoE, 2012). The main findings of the report were that for Kenya to become a newly industrialized, middle income country by 2030, educated and skilled man power well versed with new technologies was a prerequisite. MoE further points out that to achieve the goal**,** structuring of the curriculum so that skills and

competences framework that identifies the skills and competencies that all learners will require was necessary. This was in addition to aligning the curriculum to the new constitution of 2010 and to ensure that the aspirations of vision 2030 are met.

Review of the core subjects mainly Mathematics, English and Kiswahili is very important as the subjects are avenues for achieving the national goal of education of fostering nationalism, patriotism and promotion of national unity. This is especially so with Kiswahili and English which are the official languages in Kenya (MOE, 2012). Besides, Mathematics is a prerequisite to understanding sciences so useful in training of skilled technical manpower for realization of vision 2030. Monitoring of how these subjects are being performed as the students' progress through the secondary school curriculum is thus considered important by the researcher. This is because the country's national objectives cannot be effectively achieved if there is a wide disparity in academic performance between different groups of students in secondary schools in Kenya. In addition, passing in Mathematics and English at KCSE examination is a prerequisite for admission to most courses at the university.

2.3 Curriculum Evaluation and Students' Assessment in Kenya

Summative evaluation done at the end of the curriculum program enables drawing of conclusion on how well the curriculum has worked through examination of the summed up effects of the various aspects in a particular curriculum (Ornstein & Hunkins, 1998). Otunga et al. (2011) defines curriculum evaluation as all those systematic actions that focus on determining whether the curriculum as designed, developed and implemented is performing as planned, ascertaining the factors that influence the performance, and establishing the effect of the curriculum on its users. Evaluation is useful in that it enable making of judgment on the worth of a given curriculum program (Ornstein & Hunkins, 1998). Furthermore, it focuses on and results

in decisions about course improvement, individuals, teachers and students and about administrative regulations. It therefore gives some insight on how good the school system is and how good individual members are.

There are three types of evaluation namely diagnostic, formative and summative evaluation (Marsh & Willis, 2007). Diagnostic evaluation is carried out before a teaching/learning process begins and is aimed at finding out the weaknesses and strengths of the learners before a programme is designed and implemented. Data from this kind of evaluation is used to categorize (but not to label) learners for the purpose of appropriate instruction. Diagnostic evaluation also provides useful information about learners entry behavior into a programme (Marsh and Wills, 2007; Scriven, 1991;Shiundu & Omulando, 1992,)

Formative evaluation on the other hand is carried out during teaching learning process and is aimed at obtaining data that can be used to improve on the curriculum programme (Syomwene, 2017). Summative evaluation is done at the end of a course and is aimed at finding out whether the stated objectives have been achieved or not. Terminal examinations such as KCPE and KCSE contribute significantly towards summative evaluation.

Assessment in curriculum can be described as a process meant to find out whether there has been a change in students' behavior. The change observed through assessment can be given a value through the process of education measurement. Education measurement is the assignment of numerals to objects or events according to rules. (Ornstein & Hunkins, 1998).Measurement therefore enables educators to record students' degree of achieving particular competences. In scientific approach to evaluation, effort is concentrated on the learners where obtained data in most cases in

the form of test scores is used to compare students' achievements in different situations. Ornstein and Hunkins further observe that the decisions about the curriculum programs are made on the bases of comparative information gained through the evaluation effort. This is the current practice in Kenya where test scores of students in summative end of primary and secondary school education are used to make important decisions about students themselves and the program in general. However, concern has been raised on the reliability of the test scores in these national examinations in assessing the students' competences. A Policy Framework for Education and Training that aims at reforming education and training in Kenya take note that the current summative assessment at the end of primary and secondary school cycle does not adequately measure learners' ability (Ministry of Education and Ministry of Higher Education, Science and Technology, 2012). The policy document notes;

> In essence, the current system of summative assessment at the end of the various cycles together with the limited availability of student's places at secondary and higher education level dictates the teaching/learning process towards examinations as opposed to assessment of attainment of skills and competences (p 47)

The policy paper therefore recommends a progressive competence based assessment. This is in line with the global trend that advocates for alternative assessment that attempts to address the shortcomings that have resulted in overreliance on traditional standardized tests (Meyer, 1992). Such assessment engages students in tasks or activities that are real world or resemble the real world. This study attempts to assess how well the KCPE examination done at the end of primary school education compares with progressive students' assessment done as student progress through secondary school education. By so doing, the study contribute to filling the gap on the existing knowledge that assess the reliability of high stake summative national examinations and especially in Kenya in predicting students' academic potential.

2.4 Academic Performance of Learners in Public and Private Schools

National Centre for Education Statistics (1997) defines private schools as learning institutions that draw their sources of funds from nonpublic institutions such as non-governmental organizations, grants, charitable organizations, private companies or individuals. This is as opposed to funding from the central government that is the main source of funding of public schools. Attendance of private school is by choice mostly by parents dissatisfied with the public school system. Among OECD countries learners in private schools account for 12% of the students population. Of those attending private schools 38% of them attend schools run by religious organizations, 54% in those run by non-profit organization, and only 8% from profit making organizations.

The domination of private schools in top positions in achievement tests and national examination is a phenomenon that is not unique to Kenya but is also common in many developing and developed countries of the world. In United Kingdom for instance, though children from private schools (Independent schools) account for only 10% of the school population, they account for 39% of the entry to top national universities (Edkin & Seldon, 2002). Smithers and Robinson (2008) further observes that though independent schools take seven 4 % of school age pupils, they provide 21% of "A" Level entries. They further point out that in 10 out of 11 countries, independent schools performed better in 2000 Programme for International Students Assessment (PISA) reading test than government-run schools and they were ahead in six out of nine countries in Mathematics in 2003 and eight out of 10 countries in Science in 2006. In Canada, private secondary school students have been found to score significantly higher than public high school students on Reading, Mathematics and Science assessments at age 15 and by age 23 have higher levels of education attainment (Frenette & Chan, 2015)

In Australia, students from private schools have better academic results on average than public school students, are more likely to complete school at year 12 and also to participate in post school education and are less likely to be unemployed later in life (Buckingham, 2000). This effect has been found to persist even after controlling for family background. Similarly, Gannicot (1997) estimated that the probability of at least two students appearing in the top one hundred in the New South Wales Higher School Certificate examination, one of the examinations done in Australia, is second highest in independent schools followed by Catholic school student (who can also be classified as private) with the highest probability being from selective state schools. Toma (1996) in a study in Belgium, France, New Zealand, Ontario and the United States of America found a positive effect of private schools in which students from private schools performed better than those from public schools in achievement tests and national examinations. In Africa, Zaien (2014) found attendance of elite school in Tunisia to have a significant influence on the score at the Baccalaureate examination that is sat at the end of four years of high school education. The findings from the mentioned studies therefore suggest that the superior performance of students from private schools compared to public schools is a global issue among both developed and developing countries.

A closer look at the phenomenon in the United States where extensive studies have been done sheds some more light on the phenomenon. Among the many public/private school studies done, a consistent difference in achievement tests between public and private school students in favour of private school students has been shown (Carbanaro & Conay, 2008; Chubb & Moe, 1990; Coleman & Hoffer, 1987; Walber, 2009). Coleman, Hoffer and Kilgore (1982) were the first to identify existence of a difference in academic achievement between students in private and public school. In their study,

they compared performance of students in public and private schools at a single point in time and found out that high school students attending private schools performed better than those in public school even after taking into account student's social economic status, which was believed to influence academic outcome. Their study was criticized on methodology and a reanalysis of the data by Coleman and Hoffer (1987) to respond to criticism identified found that over time, high school students who schooled in private schools had better improvement in their academic achievement compared to their counterparts in public secondary schools. Hoffer (2000) observed a consistency in the superior performance of students from private schools over time giving some credibility to the Coleman Report findings.

The superior performance of learners form private school has been associated with SES. Sparkes (1999) identifies SES that encompasses low income, parental unemployment and social class as an important determinant of academic achievement. The impact of SES on achievement can be summed up by the observation by UNESCO (2000) which states

> Learners from private primary schools perform better than those from public primary schools because parents who send their children to private schools tend to have higher income and education backgrounds and that private school have better Physical and human resources. (p 38)

Superior academic performance of students from high SES has been attributed to a better home literacy environment that arouses the development of the learners cognitive and language skills (Brook-Gun, Klebanow & Duncan 1996; Farkas & Bern, 2004). Educated parents get more involved in activities and practices that have a positive effect on the literacy development when compared to parents with low education. More books are available in families of educated parents which lead to learners engaging with the

books more frequently thus enhancing literacy and numeracy skills in children prior to joining primary school education (Gustafsson, Hansen & Rosen, 2011). In addition, Gustafsson et al point out that educated parents have higher expectations of their children that is in tandem with the children's performance levels. This is as opposed to low educated parents who have lower expectations of their children or in some instances higher expectations than the children's' actual performance. Desirable practices and habits such as reading have been found to produce a supportive reading climate that ultimately leads to education success (De Graaf & Kraayhamp, 2000).

However Heyneman and Loxely (1983) in their study among developing countries concluded that SES was a powerful predictor of academic achievement in developed high-income countries but not in low-income countries. In the study, SES explained 35 % of the total variance in academic achievement among learners in high-income countries and only 18 % in low-income countries. They thus concluded that school resources matter more than SES in explaining academic achievement and that the lower the country's income, the higher the school resources explained the variance in academic achievement when compared to SES. This hypothesis has commonly been referred to as the Heyneman- Loxley effect which has generated some academic debate for some time (Bouhlila, 2013). However, the findings by Heyneman and Loxley had some criticism. Baker, Goesling and Letendre (2002) for instance disputed the Heyneman–Loxely effect by their finding that preschool effects which comprised learners family background were a better predictor of academic achievement in seven out of eight Low Gross Domestic Product (GDP) per capita countries than school factors. On the other hand, Chudgar and Luschei (2005) while using TIMSS data from fourth-grade students in 25 different countries found a statistically significant relationship between a country economic status and the extent to which school factors

explained variance in academic achievement. However, using the same data, Bouhlila (2013) found that the Heyneman-Loxely effect applied in Middle East and Northern Africa (MENA) countries.

A recent large scale study involving 61,396 grade six pupils in 2,779 schools in 15 Southern and Eastern African Consortium in Monitoring Education Quality (SACMEQ) school systems cast doubt on the school factors having stronger relationship with academic achievement when compared to SES (Hungi, 2011b). The study found family SES to have had significant effect on Reading and Mathematics achievement in 14 and 13 SACMEQ school systems respectively. This was more than some school variables such as availability of basic learning items to pupils that had significant effect in six SACMEQ school systems in reading and seven in Mathematics. Pupils with sole use of textbooks performed better in Reading in only five of the school systems and in Mathematics only in five of the systems. The implication is that SES is after all an important factor in determining education achievement in developing countries perhaps more than school factors.

In Kenya SES as it relates to education achievement has been looked at as a composite of home possession (Thuku & Hungi, 2005). Onsomu et al. (2005) established a positive correlation between the SES of standards six pupils and the level of their achievement in their study that involved primary school pupils in Kenya. The results of the study showed that as the SES of the sample improved the mean score in learning achievement also tended to increase. Shimanda (2010) using SACMEQ II data also found SES and pupil- teacher ratio to have had statistically significant relationship with the aggregated reading score. Further, Shimanda found speaking of English a qualitative variable at home to have been a stronger predictor of reading achievement than school factors. Similar finding were reported by Muthee (2011) in her study among

standard eight pupils in Nairobi County. The study report indicated that the overall SES of the family which included education level of the parents, occupation status of the father and monthly income had a significant relationship with the pupils' academic achievement in the first two examinations in class eight. Muthee concluded that family SES and home environment were better predictors of academic achievement among class eight pupils than classroom climate which is a school related factor.

The researcher is of the opinion that the results of the cited studies in Kenya contradict the Heyneman-Loxely effect for indeed the study found no statistically significant relationship between reading scores and school type, school location and school resources. Speaking of English at home as a variable and SES both explained only 15.3 % of the variance in reading achievement scores meaning 84.7 % of the variance was unexplained. Moreover, variations in the relationship between aggregated SES and pupil-teacher ratio suggested that there were some other factors that were influencing the achievement relationship – SES and pupil-teacher relationship. Githua (2005) also found a positive relationship between parents' SES and mathematics achievement in secondary school.

This study evaluates some of the explanations that have been thought to explain this phenomenon. Children initial reading competence has been found to correlate with home literacy environment and number of books owned (Aikens & Barbarin, 2008; Thuku & Hungi 2005). Families with high SES have the ability to provide their children with the necessary facilities and materials pertinent in improving education performance unlike their counterparts in low SES communities who may be unable to afford resources such as books; computers or tutors to create this positive literacy environment (Onsomu et al 2005; Orr, 2003). This therefore results in low academic achievement due to limited exposure to a more conducive learning environment at

home. This perhaps explains the observation by Morgan, et al. (2009) that children from low SES households and communities develop academic skills more slowly compared to children from higher social SES groups. In addition, Morgan and colleagues assert that chronic stress, believed to be common in low SES households is believed to affect child pre-academic skills that eventually determine academic achievement in school.

Another important factor that determined academic achievement and is to a great extent influenced by parents SES and category of school attended is provision of learning resources (Hungi, 2011a; Wasanga, Wambua & Ogle, 2011). These include adequate, usable and comfortable sitting and writing places that has been found to be important during the learning process. The lack of those physical facilities or inadequacy in terms of numbers and physical state hinder effective learning especially if classes are overcrowded or have rough and/or muddy floors (Nzomo, 2005). In Kenya, the availability and distribution of the existing resources is varied across the counties. Influx of learners due to FPE worsened the situation. Yet Thuku and Hungi (2005) in their study that used SACMER II data found pupils who had most learning materials (pencils, pens, exercise books notebooks, erasers and rulers) to have achieved better in mathematics and reading than those who had hardly any of these materials. In the study, pupils who had their own working space in class for sitting and writing were also estimated to achieve better in Mathematics than those who shared or had no working space. This is perhaps because pupils without adequate working space are likely to be less motivated to learn if they have to spend their learning time in uncomfortable sitting and writing places because of lack of furniture or overcrowding in classrooms. Pupils who learn under trees or in dilapidated classroom would also be affected by changes of weather, sometimes completely hindering learning. The study therefore aimed at

finding out whether the provision of these learning resources uniformly to students in national secondary schools would bridge the academic performance between students who schooled in public primary schools and private primary schools respectively as one of its aims.

In spite of the mentioned evidence on the superiority of private school students in academic achievement, there are some divergent views on this phenomenon. Lubienski and Lubienski (2006) for example observed that studies on school sector and achievement present a blurred picture of the impact of different school sectors on student achievement, bringing into doubt the commonly assumed policy and wisdom that private school give superior results. The Centre of Education Policy (2007) maintained that the findings of researches that have reported superiority of private schools in academic achievement are limited and have had inconsistent results giving further support to this observation. This is however a total contrast to the situation in the elementary schools in Kenya, where private primary schools candidates at the end of primary school education examination (KCPE) have been outdoing their counterpart in public school sometimes with a high margin (KNEC, 2009a, 2010a). This fact is well illustrated by Glennerster et al. *(*2011) as quoted in the following:

> Data from 2004 KCPE examination shows that 77% of private candidates qualified for secondary school by scoring 250 points, while only 45% of students in public primary schools qualified. This disparity in the performance between private and public primary schools has also led to continued overrepresentation of private school graduates in elite national secondary schools (p 5)

Many of the private primary school KCPE examination candidates get admitted to prestigious national schools and end up doing professional courses at university that set them apart from the others (Glennerster et al. 2011)

In Kenya, Kinyua (2014) found secondary school students who had attended private primary schools to have had a better chance of scoring the highest grade "A" than those who attended public primary schools. However this could have been because majority of students who schooled in private schools were in national and county secondary schools that perform better than those in sub-county secondary schools.

The researcher of this study concurs with this view and observes that a study carried out among some secondary school students in Kenya have shown that some students with a private school background do not necessarily sustain their good performance in secondary school (Ndirangu, Githua & Gitogo, 2005). It is also important to note that though most of the studies reviewed especially in the United States concentrate on academic achievement among students in secondary schools. However, superior performance in private schools in Kenya have been mainly in primary schools as opposed to secondary schools. This is perhaps because the development of the private secondary sector has not been as fast as that of the private primary schools. As such, most of the private primary school graduates end up in public secondary schools. A few private secondary schools however are among the top performing secondary schools in the KCSE examination done at the end of the secondary school education in Kenya which points to a possibility of the private sector in secondary school doing as well as the private primary school one in future. This study intended to fill the gap on the limited studies that have addressed the superiority of the private primary school graduates beyond primary school level. Public primary school graduates have been found to outperform their private primary school counterparts in county secondary schools (Ndirangu, Githua & Gitogo, 2005, Waweru, 2011) but limited research has been carried out in national schools.

There are many schools of thought that try to explain the differences in academic achievement between private and public primary school students. The first one advanced by Hoffer (1987) suggests that the differences simply reflect differences in the kind of individual students attending public and private schools. According to this hypothesis, achievement in private schools is higher because private school students are higher achievers to begin with. Lee and Burkham (2002) argue that depending on their social class, students may enter kindergarten with different achievement levels with those from high-income families having an advantage. As such, students entering the elitist private schools are higher academic achievers to begin with as they mostly come from more advantaged family backgrounds. They concluded that the private schools advantage seen in 12^{th} grade could therefore be a reflection of attracting previously successful students rather than the private schools contributing to their superior success. The inherent academic superiority responsible for the performance gap between the two is further widened, according to the theory's main argument, by the fact that students have been found to learn more when in company of higher learning peers (Lubienski, 2006). The researcher is of the opinion that high performing private schools in Kenya according to this view are elitist and admit mostly students that have a very high academic potential and this explains the superior performance.

In the Kenya setting, it would mean that learners in private schools do better than those in public schools not because of their better learning environment compared to those in public schools but because the students in these schools are inherently different and better academically. They would therefore perform better even if they schooled in public schools. In other words, type of schools attended does not matter much according to this view; rather the social background is responsible for the difference in academic achievement between the students in public and those in private schools. This is in line

with argument advanced Coleman in the analysis of data from the study carried out in1982 reported by Coleman and Hoffer (1987).

The higher achievement levels of students from private schools is further enhanced by selective criteria in their admission (McPartland & McDill, 1982). Scholars who hold this view hypothesizes that private school admit mostly students who come from families that encourage education through provision of the required learning resources as well as a better suited learning environment. Students in public schools do not therefore perform as well as those in private schools mainly because they have fewer education resources in their home than students from high income families in private schools. In addition, their parents often have less time and education to support their learning. It can thus be argued that if students from public schools are provided with a more conducive learning environment that has all the required learning resources and support, they would perform as well as those in private schools who come from more advantage backgrounds. This line of thought is also supported by BucKingham (2000) who points at a common belief that superior performance of private school students in Australia was due to greater financial resources, and their families' support that give them advantage over public school students.

This is perhaps the argument the Kenyan government based its affirmative action in the admission of form one students from public primary schools in the highly academically selective national secondary schools (Kigotho, 2012). This reasoning is also relevant in the curriculum perspective as it stresses the importance of learning resources in the successful curriculum implementation. It is also worth noting that some private primary schools have also been selectively admitting and presenting for examination only pupils they believe have higher chance of performing well in KCPE examination. This strengthens the argument that some private schools perform well at KCPE examination

because they intentionally select only above average pupils (Muindi, 2012) so as to appear to be doing well in national examinations.

Yet another explanation of the differences in academic achievement between the two sectors has been argued on the basis of differences in their organization structure. Chubb and Moe (1990) suggest that the superior performance of private schools is due to the fact that public schools are input oriented organizations, accountable to bureaucracies' demands and not consumers. As such, they lack structural incentives to innovate, improve, or respond to demands for quality from the group that they serve. This is as opposed to private schools which are relatively smaller compared to public schools and thus have minimized bureaucratization as the schools operate with a high degree of independence and autonomy. This is also thought to be another reason that makes private schools in Kenya perform better in national examinations than public schools. Private schools are more responsive to their consumer demands as failure to this would translate to lost business. Their organization structure is therefore such that they are able to make prompt decisions such as those that relate to acquisition of learning materials, employment of teachers among others. This ensures more effective learning than in public schools that are heavily influenced by bureaucracy imposed by forces outside the school administration control. The organization structure in private primary schools creates an enabling environment for better supervision of curriculum implementation than in public ones as reported by Rono, Koros and Kosgei (2016). This was in their study that involved 533 primary school teachers and 54 head teachers in 42 public primary schools and 12 private schools. They found out head teachers of private primary schools to have been more firm, friendly to teachers and pupils and to consult more before making decisions. This was thought to have been responsible for

the variation in KCPE examination performance between pupils in public and private schools in the area under study.

Being privately owned and charging school fees unlike public primary schools, private primary schools generally have better learning facilities and resources than public primary schools which facilitate better teaching (Waweru, 2014). However, Bold et al. (2013) in their study found only 36 % of the pupils in private primary schools pay more than the average per-pupil Government of Kenya funding level in public primary schools. The implication of this finding is that on average, more money is spent on pupils in public school than in private schools yet private schools have better learners' outcome. Similar findings have been reported in other studies outside Kenya. Berends, et al. (2009) for example observe that most private schools across the United States have fewer resources and that they charge less tuition. They argue that these schools survive mainly by serving students from families that have strong religious commitments or those who feel their values and beliefs are not adequately respected by the public school systems as opposed to the wealthy or politically connected ones. The superior performance of students from private schools cannot therefore be sorely as a result of the private primary schools being more funded.

In Kenya, pupils from private primary schools have been thought to perform better due to the methods of teaching used in these schools. Private primary schools have been associated with small classes that encourage better interaction between the learners and the teachers. There has also been some accusation that teachers in private schools drill their learners to pass examinations, a practice that is not common in public schools (Ndirangu et al, 2005; Too & Kafu, undated). Indeed learners in private schools are known to be exposed to intensive tuition that has raised concern from the Ministry of Education which has banned the practice (Ministry of Education, 2012). They are also

exposed to more of KCPE trial examinations than those in public schools as private schools pupils come from economically advantaged parents who can afford these commercial examinations. There is a possibility that this may enhance their performance at KCPE examination. Thuku and Hungi (2009) in their analysis of South and Eastern Africa Consortium for Monitoring Education Quality (SACMEQ) II study found the frequency of doing Mathematics test had a significant influence on Mathematics academic achievement.

The review of the literature arguments point to the fact that there are a variety of explanations of the possible causes of the disparity in academic performance between the students in private schools and their counterparts in public primary schools not only in Kenya but across the world (Berends, et al. 2009, Thuku & Hungi, 2009). However, the government stepped in and gave affirmative action to KCPE candidates from public primary schools that resulted in them being admitted into the academically selective national schools with lower KCPE mean score than their counterparts from private schools (Matiangi, 2016). This was in the belief that their lower examination performance is as a result of their disadvantaged learning environment (Glennerster et al. 2011). It would be of interest therefore to find out whether the academic performance of the two groups of students would continue to significantly differ when they study together in the same learning environment. A learning environment that is considered by many as the best in the country based on the popularity of the schools during form one admission. By so doing, the study will add to the body of knowledge that attempt to investigate the importance of school learning environment in influencing academic achievement. This is especially in developing countries like Kenya where there is a large disparity both in the kind of learning environment and academic achievement among learners in public and private primary schools.

2.5 Learners' Intellectual Ability, Prior Achievement and Academic Performance

Among the individual learner's characteristic that has been found to be most influential in academic achievement is intelligence. For the purpose of this study, the definition of intelligence given by Deka(1993) as the ability of children to learn and succeed is adopted. Deka recognizes intelligence as an inherent quality that has been distributed unequally among individuals**.** However, a distinction of two types of knowledge as first proposed by Cattell (1987) and further developed by Ackerman (1996) need to be pointed out. According to this theory, intelligence is classified into either crystallized intelligence which views intelligence as a cognitive process or fluid intelligence which is demonstrated by procedures such as abstract reasoning ability, working memory capacity and working memory efficiency (Marzano, 2003). Unlike Deka who views the whole of intelligence as innate and not subject to alteration from the environmental factors**,** advocates of this theory stress that it is only fluid intelligence that is assumed to be innate and not subject to environmental factors and that crystallized intelligence is believed to be learned. Marzano emphasizes this by stressing that when various researches on intelligence are examined carefully, a conclusion that at least some of those aspects of intelligence that are most associated with academic achievement can be altered by direct interventions is drawn. He however points at the relationship between the two types of intelligence by observing that it is believed that fluid intelligence is instrumental in the development of crystallized intelligence.

Deka (1993) shows the relationship between intelligence and academic achievement by pointing out numerous studies that have shown a significant relationship between various measures of intelligence and academic achievement. In general, these studies, place emphasis on the belief that more intelligent pupils learn more quickly, retain the learnt information for a longer period of time, perform better in all academic affairs and

will therefore most likely occupy higher positions in their classes compared to the less intelligent student. Deka further suggests that highly intelligent students are bound to be high achievers even when subjected to unfavorable conditions. If this line of argument is true, intelligent public primary school learners would perform as well as intelligent pupils in private schools. This would be in spite of their disadvantaged situation. Indeed, a few learners from public schools do attain KCPE examination mean scores that guarantee them a position in the academically selective national schools in Kenya.

In spite of the importance of intelligence in explaining variance in education attainment, Sparks (1999) observes that the proportion of this variance that can be accounted by genetical differences at birth is unknown. However environmental factors such as maternal smoking and poor nutrition during pregnancy are known to affect cognitive development prior to birth. During infancy, poor nutrition and illness are associated with high level of absence and low level educational attainment. Personality adjustment and motivation are other environmental factors that influence academic attainment but are in turn influenced by other factors. Deka (1993) however observed that none of these factors taken by itself was more valid in accounting for the differences in academic achievement than the score of good intelligence test, but taken together, they yield better prediction than any single index. In this study intelligence is controlled by selecting only students who were the very best in their sub-counties for this studies. These are learners who are the very best in the country are expected to be of comparable intelligence and academic potential.

Another important learner's characteristic that is thought to influence academic achievement to a large extent is prior attainment. Indeed, a 1997 study by Rogers, Wentzel and Ndalichako cited in Rogers et al. (2006) is among a number of studies that

attest to this. The study found that prior performance accounted for 40 to 50 % of the variance in performance in language, Arts and Mathematics at the grade three and six levels. One such study was done by Center of Education Policy (2007). Using nationally representative, longitudinal database of students and schools, the study found prior academic achievement at grade eight to have had consistent influence on academic achievement at grade 12 in all the surveyed subjects. Similarly, Sparks (1999) is of the opinion that prior attainment explains the greatest proportion of variance in education attainment, which is estimated to be about 59%. It was however Dochy, Segers and Buehl (1999) study on prior learning that demonstrated the greatest impact of prior attainment on academic achievement. In their analysis of 183 studies that looked into effects of prior achievement on academic achievement, they found that almost 92% of the studies demonstrated positive effect of prior knowledge on learning.

An observation by Marzano (2003) highlights an important relationship between intelligence and prior knowledge. He point out that researches on intelligence and prior knowledge leads to the generalization that prior learning and crystallized intelligence might for practical purposes be considered identical. According to him crystallized intelligence is learnt knowledge about the world while prior knowledge is learned knowledge about a specific domain. As such enhancing student background knowledge is the same as enhancing the student's crystallized intelligence which is also one of the strongest determinant of academic achievement. Related to this is an important observation by Deka (1993) that there is a high correlation between social economic background variables and prior attainment.

Prior academic performance at KCPE examination that is used as a basis of secondary school admission has also been found to be correlated with secondary school academic performance. Glennerstar et al. (2011) suggest one reason that makes national

secondary schools post better results in KCSE examination is the fact that they have a higher quality peer group when compared to the other category of secondary schools. In their view, this is because they are the first to select the KCPE examination graduates during the form one selection and therefore select the very best of the candidates. A number of studies support this as they have shown positive relationship between students' KCPE examination mean score and KCSE examination performance at the end of the four year secondary school education (Jagero 2013; Kinyua 2014; Najakululu, 2010; Waweru, 2011). In the study, Najakululu found that 31.3 % of KCSE examination performance was explained by KCPE examination score. Related to this is the category of primary school attended and family Social-Economic Status (SES). These have been found to interact with each other influencing academic achievement both at KCPE examination and at the end of the four year secondary school education course. Majority of students who learn in private primary schools for instance have been found to come from the upper and middle SES backgrounds (Ongaki & Musa, 2014). Students from private schools have dominated top positions in KCPE examination for a number of years (KNEC 2008, 2009, 2010a, 2011a, 2012a, 2013a).

It may therefore not be clear whether learners from private primary schools perform better than their counterparts form public primary schools because they learn in a better school environment or because they come from families that are from higher SES. This study attempted to fill that gap in research that has not resolved whether the difference in academic achievement between public and private schools learners is as a result of the difference in learning environment or factors beyond the school. By controlled the learning environment by selecting only students in Alliance national secondary schools whose popularity is believed to be as a result of a good learning environment, the study provided information that showed the extent to which other factors beyond the school

had influence on academic performance. The results of the study therefore gave an indication of the extent to which school learning environment influence academic performance of leaners in the Kenyan context.

2.6 Perception of Teachers on Students' Academic Performance.

Research has shown that teachers form expectations on student's performance (Oakes, 1985) and that these expectations are a powerful pedagogical tool that plays an important role in determining the quality of student learning (Good & Brophy, 2000). Indeed, one of the foundations of student's success is the teacher's ability to communicate high expectations and hold a positive attitude towards the students (Gay, 2000; Nieto, 1999). Brophy (1983) suggests that five to ten percent of the differences in the student's achievement are as a result of the different teachers' treatment of students depending on their expectation of the students. On the other hand, Hoy, Tartar and Kottkamp (1991) suggest that the sole greatest predictor of learners' academic achievement is the concern teachers have for the students' success. Teachers' expectation of students' academic achievement improves the students' instrumental motivation (Simons et al., 2004). Students' instrumental motivation is the extent to which the students are inspired to complete their school work. It influences academic achievement because it prompts students to be more engaged in their academic work if it is high resulting academic success. Huges and Cavell (1999) assert that students who perceive a positive teacher-student relationship actively participate in school activities and have higher academic performance. Such relationships are more likely to occur when the teachers have a high expectation of students they teach. Teachers on the other hand are of the opinion that a positive student-teacher interaction and students access

to teachers beyond class hours have an influence on their academic achievement (Whittle,Telford & Benson, 2018).

This study investigated the Alliance national secondary teachers' perception of their students with a public and private primary school background bearing in mind that they were among the very best in the country at KCPE examination. This is because any difference in their perception of the two groups could have some implication in the students' academic performance.

The importance of teacher's perception on student's academic performance has been demonstrated through research by Rosenthal and Jacobson (1968). In their study, twenty percent of students were randomly selected and reported to the teachers as having unusual potential for intellectual gain. Eight months later, the students registered significant gains in their IQ when compared to the remaining group from whom the sample was drawn. In another study. Other studies have supported this correlation between teacher expectations and student achievement (Beyerbach et al. 2008; Grayson & Martin, 1997). Kolb and Jussim (1994) are of the opinion that self-fulfilling prophecies occur because teachers create a learning environment in which students perform at levels that is congruent with the teachers' initial expectations. Thus when teachers expect students to do well, they tend to do well and fail when teachers expect them to do so. This is because as Oakes (1985) pointed out, students and teachers perception and expectation both reflect and determine the achievement goals the students set. Students perceived to have high academic potential set high achievement goals as opposed to those perceived to be low achievers. The achievement goal they set tends to determine the effort they put in their academic pursuit. Students tend to put more or less effort to match the expectations of their teachers' (Hanover Research, 2012).

Timmermans, De Boer and Van der Werf (2016) found that teachers base their expectations on student on the students' self-confidence and work habits. The authors found that when teachers perceived students as self-confident and possessing positive work habits, they formed a high expectation of them. This was based on their research carried out in Dutch primary school which involved 5316 students in 469 classes in grade six. Sadker and Sadker (2005) on the other hand are on the opinion that teachers form expectations of their students from a number of factors that include information about students that they obtain from the school records. These include previous test scores, staffroom discussions and indefinable stereotypes such as gender and SES. The assumptions of teachers about their students have been found to have some degree of accuracy (Bonvin & Genoud, 2006). However, teachers were found to underestimate the potential of the students perceived as immature and insecure and to overestimate the potential of those they perceived, assertive and independent (Alvidrez & Wienstein, 1999).

Teachers therefore have different expectations for each individual student they teach and as such do not carry the same assumptions about the potential of each of the students they interact with (Bridgeland Dilulio & Balfanz, 2009). They thus treat students differently based on the perception they have on them and according to Tyack and Cuban (1995) students are aware of the differential treatment. Cotton (1989) for instance found out that students perceived as low achievers were called less times to answer questions in class when compared to those perceived as high achievers. In addition, when those perceived as low achievers failed to answer the question asked correctly, teachers were more likely to tell them the correct answer instead of improving on the answer they gave. Cotton further asserts that teachers were also more likely to criticize the failures of underachieving students than praise them when they succeeded.

The reverse was the case with those students perceived as high achievers. The impact of the differential treatment of students perceived as low achievers is disengagement in learning. This makes the students passive and inattentive in class. Knapp, Shields & Turnbull (1995) while working with elementary school teachers found out that teachers considered SES as the best predictor of the learners' success and that students from high SES received more attention from teachers than those from low SES. Students from low SES received more criticism and punishment than those from high SES which may result in lowered self- concept associated with underachieving students.

The teachers' formation of different expectations about students they teach does not necessarily mean that they communicate them to students. However, research has shown that a number of teachers do express their expectations to their students in a number of ways sometimes inadvertently (Iakovos & Areti, 2010). Some behaviors designed to provide extra support for low weak students for example, could undermine learning (Babad & Tyler, 1992). This is because such compensatory behaviors occasionally go along with subtle negative behaviors or expressions such as hostility, tenseness and anxiety. These differential treatment of students based on their expectations are easily interpreted by students despite teachers' conscious effort to control it (Babad & Tyler, 1992). This is illustrated by the study done by Kuklinski and Weinstein (2000) who found out that compared to low achievers, students felt that teachers interacted more positively with high achieving students that they had higher expectation of. They in addition offered them more leadership opportunities and more choice in their learning experiences. This natural affection for high expectation which made teachers to offer discriminative emotional support that favoured students perceived to be high achievers was resented by the students. Such differential behavior has direct effect on learning and as a result increases the difference in academic

attainment between low- and high-achieving students (Stipek, 2010). Due to this differential treatment, Bratteesani, Weinsteind and Marshall (1984) showed that student's academic performance differed substantially depending on the teachers' perception of their students. In classrooms where the students reported a clear distinction in the way teachers treated high and low achievers, teacher's expectations explained 14% on the variance in the student's end of year achievement. This was after controlling for prior achievement which has been found to be good predictor of academic achievement. This demonstrates that different teachers' expectations produce different changes in students' achievement.

Teachers however need to be careful in the expectations they communicate to their students. This is because increased levels of students stress result when they feel that the teacher's expectations are beyond what they perceive as being within their capability. This increased level of students stress resulting from demands made by teachers may result in the student having a lower satisfaction level of the school environment (Mackay et al. 1978). However, the resultant stress can be reduced by good relationship between students and their teachers and social support from fellow students (Steptoe, 1991). Though teachers perception of students have been established by the reviewed literature as having an impact on students' performance, analysis of research done over three decades by Jussim and Harber (2005) concluded that the teachers' self-fulfilling prophesies commonly referred to as Pygmalion effect have typically small effect on students. Further they found out that the Pygmalion effect was more likely to reduce than increase over time.

Since Alliance national secondary schools admit the best students in academic performance from across the country, it is expected that teachers would have high expectation of them. However, the affirmative admission policy in national schools

introduced by the government resulted in two distinct groups of students. The first one comprise of those from private primary schools admitted with higher KCPE examination man scores and presumed to come from higher SES families' The second one consist of those from public primary schools admitted with lower KCPE examination mean scores and presumed to come from lower SES families. Since the review of literature has established that teachers use prior academic performance and family SES status to form opinions on students, this study intended to establish whether teachers in Alliance national secondary schools use the same parameters to form opinions of students' academic potential.

2.7 Students' Perception of the Classroom Learning Environment.

Effective implementations of planned instruction by teachers require that students perceive the learning environment as supportive to their effort (Callahan, Clark & Kellough, 2002). A positive school climate is important because it provide an enriching environment not only for academic success but also for personal growth (Freiberg, 1999). Further, the learner ought to have a feeling that the teachers care about their learning which takes place in an environment that is welcoming. It is for this reason that Korir and Kepkemboi (2014) underscore the importance of the school administration in ensuring that a rapport and understanding of the students feeling is taken into consideration when providing an acceptable school environment which is a second home to the students. This is especially so in Kenyan secondary schools which are boarding and as such students spend most of their time in school than at home. A school is welcoming when the learning environment is responsive to the students' development needs which in addition increase the motivation and mental health of the learners (Eccles et al. 1993). These important development needs particularly of

adolescents include relationship with peers and adults outside the family, emotional support, engagement and meaningful contribution especially decisions affecting their life (Eccles & Roeser, 2011). Students development needs are effectively met when there is social interaction in the classroom. Social interaction is a construct in the classroom socio-emotional context that encourage students to work collaboratively which is important in promoting positive classroom social environment (Patrick et al, 2011). Social interaction in the classroom according to Ryan and Patrick (2001) is the extent to which students interact with one another during the learning activities. Patrick et al. Further describe the classroom social environment as the extent to which the classroom portray affiliation, cohesion, fairness, mutual respect and support from teachers and students. Classroom social environment is therefore influenced by the relations between and among students and teachers (Allodi, 2010).

Positive socio-emotional contexts in the classroom encourage students' sense of classroom community, constructive interactions and respect towards the peers (Skinner & Belmont, 1993, Wentzel et al 2010). The consequence of positive socio-emotional context in the classroom is higher level of student academic self-efficacy and lower levels of disruptive behavior in the classroom among other benefits that enhance student learning (Ryan & Patrick, 2001). Increased achievement levels of students and reduced maladaptive behavior have also been associated with positive interpersonal relationship (McEvoy & Welker, 2000). However, the main benefit of positive social interaction in the teaching- learning process in classroom, which is evidenced by students working collaboratively together, is encouragement of mastery-oriented classroom goal structure that focus on the students developing competence (Ames, 1992). Mastery-oriented learning is considered more beneficial than performance-oriented learning which is teacher centered and distinguished by social comparison and competition as

well as rewards for those who outperform peers (Ames, 1992). Given the benefit of positive social interactions in the classrooms and the fact that as Fraser (1991) asserts, students have capability of accurately describing the actual classroom environment, perception of the classroom environment by learners has interested education researchers.

However, in spite of the learners having capability of accurately describing the actual classroom environment, their perception of the classroom environment may vary even among those in the same environment (Bergsmann et al. 2013; Freigberg, 1999; Wentzel et al, 2010). The differences in the perception of the same environment by different groups of students maybe argued to be as a result of the differences between the groups (Freiberg, 1999). For example, learners' individual factors that include personal characteristics and history have been found to influence the different students' perception of the same classroom environment (Ames, 1992, Wentzel et al, 2010). Among the individual differences that may influence students' perception of the classroom environment include age, ability level, gender and school experiences (Wang & Eccles, 2014). In their investigation of students' perception of the school climate among 16168 tenth–grade students, Fan et al (2011) found out that more than 80% of the variance in the students' perception was explained by individual level factors as opposed to school level factors. Male students for instance perceived the environment as less positive when compared to female students. It is therefore important to bear in mind the importance of students' individual factors when interpreting data from studies on students' perception of the learning environment. Friedberg further stresses the importance of the knowledge of the existence of differences in students' perception of the same environment when planning for improvement of the school climate.

Teachers are the immediate contacts with learners outside their families and their relationship with learners is very instrumental in creating a positive learning environment that encourages interaction among and between teachers and students. Teachers who are perceived as caring by students are those that use words of praise in the classrooms, advice, listen, show concern to students, are fair and have high student expectation (Rogers & Webb, 1991, Coburn, 1989). The perception students have about their teachers is therefore very important particularly because more than 70% of students identify teachers as having positive influence on them (Coburn, 1989). The beliefs students have about themselves can therefore be influenced by their relationship with their teachers (Rutter, 1990). Further, students' academic success or failure can be influenced by the relationship between the teachers and students. Indeed, student achievement levels have been found to be directly influenced by the perception the students have about their teachers' expectations on their performance and capabilities (McEvoy & Welker, 2000).

In spite of the importance of positive students' perception of their teachers, a study by the National Center for Students Aspiration found 25% of the students perceiving their teachers as not caring about their problems and feelings (Quaglia & Fox, 1998). A further 29% were indifferent and did not know whether teachers cared about them or not. Another study that tracked 1500 students transiting from sixth to seventh grade in Michigan found the relationship between the teachers and students deteriorated after the transition to secondary school (Eccles et al, 1983). This deteriorating relationship was attributed to the large school size, large students' population and departmentalized teaching in secondary schools. It is however possible to create a positive school environment partly by allowing students to participate in making decisions that affect their school life and have good relationship with teachers (Voelkl, 1997). Once school

rules governing students' behavior in school have been set, teachers ought to ensure they enforce the rules fairly. This is important because as Karasek and Therell (1990) point out, students adjustment to the school environment that dictate how they feel about a school are influenced by how fairly they perceive the teachers enforce the school rules.

How well students adjust to secondary school environment is an area that has not received much attention from researchers in Kenya and especially in national secondary schools. The continued popularity of Alliance national secondary school is an indication that KCPE candidates who wish to join the schools have high regard for them. However, recent incidences of bullying in Alliance boys high school that was highlighted in the press cast some doubt on the believe that the school has the best learning environment, it popularity notwithstanding (Kejitan, 2018, Magut, 2017, Olweny, 2017). This study intended to fill this gap by providing some insight on the Alliance high school students' perception of their learning environment.

2.8 Related Studies

Three studies that are related to this study in that they compared academic performance of secondary school students with a public and private primary school background are worth mentioning. The first one is titled "Effect of Private Primary Schools Background on Students' Performance and Perception of Learning Environment in Public Secondary Schools. A case of Nyandarua District by Ndirangu et al. (2005). The ex-post facto research study compared the academic achievement at the KCSE examination done at the end of secondary school education of a random sample of 860 graduates of public and private primary schools admitted to provincial secondary schools. When the KCPE and KCSE examination mean scores of the two groups of students were correlated, the Pearson correlation coefficient exposed a statistically

significant positive correlation. In addition, results of the paired t-test revealed that students with a public primary school background had a significantly higher KCSE examination mean score than their counterparts with a private primary school background. This was in spite of the fact that the private primary school graduates had been admitted with a higher KCPE examination mean scores.

The second one is by Waweru (2014) titled, "A Study on the Predictive Validity of KCPE Performance on KCSE Performance by Students from Public and Private Primary Schools Enrolled in Public Secondary Schools in Dagoreti District." Using a stratified sample of 300 KCSE examination candidates sorted according to primary school background as either public or private,Waweru found a linear positive relationship between KCPE and KCSE mean scores obtained by the students. Students from public primary school were confirmed to have performed better than their private primary school counterparts by independent t-test. This was again in spite of the fact that they had lower KCPE examination mean score during admission. The researcher was of the opinion that the lower KCPE examination mean score of the students from public primary school was as a result of the challenging environment in primary schools.

The third study finding that had different results was by Ambiro (2011) in the study titled "Teaching in a Changing Africa: Differential Academic Performance of Students from Academies and Public Primary Schools at KCSE Examination in Kenya". She investigated performance of 240 secondary school students who had attended public and private primary school in provincial secondary school in Rift Valley, Western and Nyanza provinces. The type of primary school attended and KCPE examination raw marks for the year 2006 for the sampled examinees were matched with their 2010 KCSE examination mean marks. In the data analysis that was done both qualitatively

and quantitatively, no significant difference in KCSE examination mean scores between students who had studied in private primary schools and those who had studied in public primary schools. She concluded that among students in provincial secondary schools, there is no relationship between the type of primary school attended (public or private) and their performance at KCSE examination.

Whereas the three studies were carried out among secondary students in provincial public secondary schools, it is worth noting that as opposed to the earlier one that was carried out in 2005, the last two were carried out more recently. Secondly, the second study was done in Dagoreti district which is mainly urban, located within Nairobi city while the other two were carried out in a rural setting. The difference in time the two studies were conducted and location notwithstanding, the results of two of the three studies were consistent. This study aimed at finding out whether the consistency of the findings cited in the studies would continue among the very best graduates of public and private schools in Alliance national secondary school.

These studies were carried out in provincial secondary schools that admit students that are in most cases of mixed academic ability. Secondly, the studies compared students' academic performance in KCPE and KCSE national examinations which are high stake and students' performance is greatly influenced by how well the students are prepared for the examination. This study attempted to address this gap by conducting the study among students in national secondary school that were among the best in the country and were expected to have minimum variation in their academic ability. In addition the comparison in their academic performance was in KCPE examination and secondary school examinations that are done at the end of each term which, unlike KCSE examination, are not high stake. As a result their outcome is not expected to be

influenced by how well the students are prepared by their teachers for the examination but on their academic ability.

Studies that have addressed prior academic achievement (KCPE examination mean score) and KCSE Examination performance have had consistent results that showed a relationship between KCPE examination mean scores and secondary school academic performance albeit in varying degrees. In his study among 809 girl students in national secondary schools, Nanjakululu (2010) found only a moderate linear relationship between students' KCPE examination mean scores and the mean scores of KCSE examination four years later. It is not clear whether the relationship between KCPE and KCSE examination mean scores is the same among boys in national secondary schools. Odima, Nyamasenge, Mogwambo and Ochoti (2013) similarly found out that KCPE examination scores explained about 44% of the variance at KCSE examination mean scores. For every score increase in KCPE examination mean score, they found a significant increase of 1.4 units at KCSE examination mean score. Jagero (2013) in his investigation on how performance of students in KCPE examination can predict their performance in KCSE Examination showed that 31.3% of KCSE performance was explained by KCPE mean scores. This was close to the study by Odima et al. (2013).

Though the primary school background and students' KCPE examination mean scores have been found to influence academic performance among students in secondary school in Kenya, the extent to which each of these factors contribute towards overall academic performance have not been clearly established. This is especially so in national secondary schools that admit the best of the KCPE candidates and as such is considered centers of excellence.

This study was similar to the ones cited in that it investigated academic performance of secondary school students with a public and private primary school background. It was however different in that first, it focused on students in national secondary schools which are centers of excellence as opposed to county (formerly provincial) secondary schools. Secondly, the study compared student's prior academic performance at KCPE examination with results of their progressive academic performance as they progressed through secondary school education. The researcher is of the opinion that evaluation which uses a progressive framework is a better measure of students' academic ability than the results of KCSE summative evaluation. KCSE examination is a high stake examination that has major decision made based on the students' performance in the examination. Teacher may therefore teach student mainly to pass the examination and not necessarily to master the content and skill in the syllabus.

Most of the studies cited have investigated determinants of education performance at KCSE examination in county and sub-county secondary schools. There is a scarcity of studies that have addressed academic performance in national secondary schools that admit the best KCPE examination candidates in the country. This study provided data that added knowledge on the academic performance of the best KCPE examination candidates with a public and private primary school background admitted to the most academically selective national secondary schools. At the same time the studies that have investigated academic performance among students in secondary schools have done so at a single point which is at the end of secondary school education when they sit for the summative KCSE examination. This study had the intention of filling this gap by looking at performance of students in national schools as they progressed through the secondary school education from form one to form three. By doing so, a more comprehensive and accurate comparison of academic performance among

students with a public and private primary school background in national secondary schools was possible.

2.9 Summary

This chapter has reviewed some literature that the researcher was able to access on the research area. The review includes findings from empirical studies as well as official records in an attempt to place the proposed study in the context of previous research studies especially in Kenya. Available literature on secondary school education was the first to be discussed followed by evaluation and assessment in Kenya and differences in academic achievement between students in public and private primary schools. This was immediately followed by a discussion of the possible explanation of the difference in academic achievement between students in public and private schools. The other areas that were reviewed according to the order in which they occur are learner intellectual ability, prior achievement and academic performance, perception of teachers on students' academic achievement and previous research findings.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter provides a description of the research methodology and specifically provided information on the source and type of data, the procedure of data collection and finally the method of data analysis. This information will be presented in the following sub-topics: Research area, research paradigm, research design, research population, sampling procedures, sample size, research instruments, piloting of research instruments, validity and reliability of research instruments and data analysis

3.2 Research Area

The research was carried out among national secondary students in Kiambu County Kenya. Students in Alliance boys and Alliance girls' national secondary schools which according to the researcher experience have almost a similar learning environment considered to be among the best in public secondary schools in Kenya participated in the study.

The choice of the two schools was further strengthened by the fact that most of the students from public primary school are under scholarship or sponsorship from various organizations. This is because such scholarships and sponsorship target the bright students from poor backgrounds mainly studying in public primary schools. These are the students who by virtue of their performance get admitted to these two very competitive secondary schools. This means the groups of students admitted in form one at any given time remain relatively stable. The importance of this is that students from low SES and from parents with low level of education are more likely to have uninterrupted secondary school education as well as be retained in these schools than

any other national school where fewer students are likely to be under scholarship and sponsorship. This makes it easy to follow their trend in academic performance as they progress through secondary school education.

Finally, though the schools are located in Kiambu County, they draw their students from the entire country as admission is based on KCPE examination performance and sub-county quota.

Using an entire 706 students in the sampled classes of the cohort in the two schools therefore captured the diversity of the students from the whole country. In addition it ensures representation of students from all the 47 counties in the country. This was as opposed to random sampling which might have had a possibility of missing representation of students from certain areas and social backgrounds who are the minority in national schools.

3.3 Research Paradigm

The philosophical leaning in this research was post positivism. Post positivism has production of generalized knowledge about social patterns as its major aim (Creswell, 2003). Further, the paradigm seeks to affirm the presence of universal properties or laws in relationship among predefined variables. This is the essence of this proposed study and as such this paradigm fit well in the study. Further post positivism philosophy is also reductionist with the intent of reducing ideas into small, discrete set of ideas and to test such ideas. As such, this philosophical leaning was essential in this study that heavily relied on quantitative data to test hypothesis.

The main specific feature about this paradigm that made it suitable for this research was the fact that it recognizes that truth is not absolute. Further the paradigm recognizes that any theory is revisable (Trochim, 2008). Based on this, the paradigm recommend

multiple measures and observations each of which may have different types of errors and thus the need of triangulation to try and get better understanding of what is happening in reality.

3.4 Research Design

Kothari (1985) defines research design as the arrangement of conditions for collection and analysis of data in a manner that aims at combining relevance to the research purpose with the economy in procedure. He identifies true experimental, quasi – experimental and *ex-post facto* as some of the main research designs.

This quantitative study utilized *ex-post facto* research design which is a non-experimental research technique in which pre-existing groups are compared on some dependent variable (Lammers & Badia, 2005). In the context of educational and social sciences research, the phrase *ex-post facto* means "after the fact" (Cohen, Manion & Morrison, 2007). This implies that *ex-post facto* is a type of design that is applied in those studies in which the independent variable(s) has/have interacted with dependent variable(s). Consequently, the effect of interaction between the variables is determined retrospectively (Kerlinger, 2002). The design explores and clarifies relationship between one or two variables and it is a systematic empirical inquiry in which the researcher has no control on independent variables because manifestation has already occurred. The design ensures no control will be exercised on the variables and the researcher merely selects the relevant variables for analysis of their influence since the conditions have already occurred. Of the two types of *ex-post facto* research design, proactive and retroactive, the former was used in this study. This was because as Ary et al (2014) point out, proactive ex-post facto design utilizes subjects who are grouped in pre-existing independent variables and compare them on measures of dependent variable. In this study, category of primary school attended was the pre-existing

independent variable and secondary school academic performance the dependent variable measure that was used to compare the two groups.

A weakness of the *ex-post facto* research is the absence of control over independent variables in the case of causal and comparative researches. This can however be controlled by among other means, selecting samples that are as homogeneous as possible (Cohen, Manion & Morrison, 2007). By ensuring that as much as possible, students selected for the study were the best in their respective sub-county of origin, a homogenous group of students who are all above average are involved in the study thus having some form of control of the students' academic potential that influence the independent variable which is the KCPE examination mean scores.

3.5 Population of the Study

The population for this study was defined as all the 2944 students, 149 teachers and 2 deputies in Alliance boys and Alliance Girls in 2015. The students were admitted to their respective schools through merit and based on affirmative action that favoured KCPE examination candidates from public primary schools. The significance of this was that the national schools had a more varied student population than before the affirmative action. Most of the KCPE examination candidates from public primary schools were admitted with lower KCPE examination means scores than their counterparts from private primary schools. As such, the range between the candidate with the highest and the lowest KCPE examination mean score increased with the affirmative action. The accessible target population of this study was the cohort of 706 students from both Alliance boys and Alliance girls' high school admitted to the two schools in 2014 and in form three at the time of the study. This was one of the cohort of students admitted in form one under the affirmative action that favoured students from public primary schools. The cohort was selected because it had been in school for

three years and as such, data on their academic performance was available for the three years. The group of students was also considered as being stable enough to answer the questionnaire without examination anxiety. The cohort in form four, though possessing most complete data on progressive secondary school academic performance was not selected. This was because it was feared being a candidate class and data being collected close to examination time, examination anxiety could have affected the way they answered the questionnaire.

3.6 Sampling Procedures and Sample Size

Purposive sampling was used to select students in Alliance boys' and Alliance girls' national secondary schools in Kiambu county. It was also used together with census and random sampling to select students to participate in the study. Purposive and census sampling was used to select all the 362 boys and 344 girls who were the cohort in the two schools that had done their KCPE examination in 2014 and were in form three at the time of collecting data. Census sampling is used where the entire population is used (Kothari, 2004). Kothari gives the high accuracy as a main advantage of census as a sampling design. This was one of the main reasons why this sampling method was selected for this study. The data on the progressive secondary school examination performance of a total of 706 students in the two schools representing approximately 24% of the entire student population in the two schools was analyzed for the study. Lastly, random sampling was used to selected students in four form three streams out of the seven form three streams in Alliance boys' and three streams out of the six in Alliance girls' to fill in the students' questionnaire. The random sampling resulted in 339 students in seven streams from the two schools.

Purpose sampling was also used to select all the 54 teachers teaching form three in the two schools out of the total 149 in the two schools. This was followed by census

sampling that selected all the 18 of the form three teachers teaching English, Kiswahili and Mathematics in the two schools. It was also used together with census sampling to select the two deputy principals in charge of academics. The same purposive sampling method was used to select the two principals in the school to answer the principal and deputy principal questionnaire. A summary of the population, sample size and sampling method is shown in table 3.1

Table 3.1: Summary of Sample Selected.

	Population size	Sample size	Sampling Method
Boys Students	1438	362	Purposive and census sampling
Girls Students	1506	344	Purpose and census sampling
Students to answer questionnaire	14 streams(706) students	7 streams(339) students	Random sampling of streams
Principals	2	2	Purpose and census sampling
Deputy Principals	2	2	Purpose and census sampling
Subject teachers	149	18	Purposive sampling

3.7 Instruments of Data Collection

Document analysis forms were used as instrument of collecting and recording data that was obtained from KCPE examination performance and secondary school admission records. The same forms were used to capture data on students' progressive academic performance from school examination records. These were supported by students' questionnaires and a principal's interview schedule.

3.7.1 Students Questionnaires.

According to Kothari (2004) use of questionnaires is a popular method of collecting data which consists of a number of question items printed in a definite order on a form that the targeted persons are to fill on their own. One advantage of questionnaire is that it provides data on people's opinion in such a way that it can be quantified (Hannan, 2007). At the same time, questionnaire provide numerical data that is comparatively straightforward to analyze and can be administered in absence of the researcher (Cohen, et al., 2007). However, questionnaires may present a problem when the range of questions or answers do not allow the respondent the opportunity to state what he wishes. Never the less, use of questionnaires is chosen for this research as the advantages are more than the disadvantages.

A student's questionnaire called National Secondary School Student Questionnaire (NSSSQ) was used to collect data from the students (See Appendix D). It confirmed the students' primary school background obtained through document analysis. This was important because there are instances where pupils from private primary schools register to sit for their KCPE examination in public primary school. Others register for KCPE in a different locality from where they study. The two anomalies are executed to improve chances of being admitted to national secondary schools. If not detected, such anomalies can compromise the findings of the study and it is for this reason that every effort was made to detect them through verification of data from document analysis. The students' questionnaire also collected views of students' perception of their primary and secondary school learning environment. This information was expected to help explain the findings of the hypothesis. Another questionnaire named National Secondary School Teachers' Questionnaire prepared by the researcher was administered to the teachers seeking their perception on the students' academic

performance of those with a public primary school background and those with a private one (Appendix E).

3.7.2 Interview Schedule

Interview method of collecting data is an oral questionnaire where the interviewee gives the needed information orally and face-to face (Mutai, 2000).Among the individual and group interview identified by Mutai, individual interview was adopted. Cohen et al. (2007) identify informal conversational interviews, interview guides approach, standardized open ended interview and closed qualitative interviews as the main categories of interviews. This research used standardized structured interview schedule where the exact wording and sequence of the items in the questionnaire were determined in advance. All interviewees were asked the same basic questions in the same order. This was as suggested by Kothari (1995) who asserts that in this kind of interview, the desired information is collected in a structured way that involves use of predetermined questions and a highly standardized technique of recording. Further, elite interview that Marshall and Rossman (1999) identify as a specialized form of interviewing that focuses on individuals considered influential, prominent and well informed in an organization or community was used. The choice of secondary school principals was therefore based on their expertise and experience in the secondary school administration in national schools. Principals in national secondary schools have a wealth of experience in handling above average students who are admitted to their respective schools as they often interact with the students as well as their teachers on daily basis. They were therefore believed to be a source of reliable information on the students' academic performance in their respective schools. The interview schedule that was used to collect data on the principals' views on trends in academic performance

among students in national secondary schools was prepared by the researcher. See appendix F

3.7.3 Document Analysis Form

Document analysis was considered suitable for this because research documents are a source of data that is permanent and are available in a form that can be verified (Mutai, 2000). Prior, (2003) asserts that documents form a field of research on their own right and as such need to be considered as situated products rather than fixed and stable things in the world. Caulley (1983) warns that though document analysis is a rich source of data, a researcher should be cautious of taking information from documents on their face value. This is because data recorded is always reflected through the minds of the recorder who may choose what to record and what to ignore. However documents that were used as source of data in this research contain concrete information in terms of examination results and secondary school admission details which the recorder may have had no reason of manipulating and as such can be taken as a true record.

Analysis of documents containing data of the cohort of student's in Alliance boys and Alliance girls' secondary school selected for the study was done. Details on the students' academic progress records were heavily relied upon as a source of research data. The instrument used in document analysis referred to as Students Data Record Form was prepared by the researcher and used to capture the required student's information. This included students' admission records that revealed category of primary school the student studied, sat for KCPE examination as well KCPE examination mean scores. Further students' progress record kept by the schools was used to obtain the students end of year one and two and end of term two year three examination grades in Mathematics, English and Kiswahili for that formed the

dependent variable. Appendix A, B and C shows the Students Data Record Form that was used to record the required information.

3.8 Reliability and Piloting of Research Instrument.

Reliability implies an instrument's consistency in measuring what it is intended to measure (Mugenda & Mugenda, 2003; Wiersma & Jurs, 2005). Cohen et al. (2007) goes further and contends that reliability is a measure of the dependability, consistency and ability to replicate over time of an instrument. Reliability has two aspects; external and internal reliability. External reliability denotes the degree of consistency of a measure of an instrument over time. In other words it is a measure of the extent to which an instrument is capable of generating similar results when used more than once to gather data from a group of subjects under consistent conditions (Kasomo, 2006).

Internal reliability is particularly critical when using multiple item scale. It addresses the question of the extent to which the scale is measuring a single idea (or construct for that matter) and hence whether or not the items in the instrument are internally consistent. This was achieved through piloting of the research instrument.

Piloting of the research instruments was done in Nyandarua national secondary school. This school was not to be involved in the main research. This was in line with the suggestion given by Kothari (1985) who recommends that a questionnaire should be pilot tested on a group of subjects that reflect as closely as possible the same characteristics as the study sample.

The instrument internal reliability was estimated using Cronbach's alpha. This aspect of reliability was estimated through split half technique after the instrument was administered in selected pilot school that had both boys and girls studying together. Scores for the two halves that took into consideration the public and private primary

school graduates were correlated. An alpha level of 0.71 and 0.73 on the students and teachers questionnaires respectively was found to be acceptable and considered suitable to make possible group inferences that are accurate enough as it was above 0.7 suggested for educational researches by Lodico et al. (2010).

Some adjustments to the questionnaire were found necessary after analysis of the results of the pilot study. These adjustments included changes in wording of some question items and removal of some question items that did not meet the threshold.

3.9 Data Collection Procedures

An introductory letter to the National Commission for Science, Technology and Innovation (NACOSTI) was obtained from graduate school, Moi University. The introductory letter was used in securing research permit from NACOSTI. Thereafter, County Commissioner and County Director of Education from the Kiambu County were contacted and informed about the impending study. Permission to collect data in the county was granted by the two offices in writing (see appendix (H & I). Principals of participating schools were similarly contacted and shown the authorisation letters to carry out the research. They were then requested to arrange when the instruments were to be administered to the students and teachers in their schools. Thereafter, data students' academic performance was collected by the researcher with the assistance of schools deans of studies and form three class teachers in the respective schools.

3.10 Data Presentation and analysis.

Both descriptive and inferential data analysis was used to analyze data from questionnaires. Descriptive analysis was used to find out whether there were differences in examination mean scores among the two groups of students under study. Inferential

data analysis was carried out using SPSS computer program. A summary of inferential data analysis is shown in Table 3.2

In hypothesis one, five and six, t-test which is normally used to find out whether statistical differences exist among two means was employed to test these hypotheses. In hypothesis one, t-test specifically tested whether statistically significant differences in the KCPE examination mean scores in the core subjects at admission between students who studied in private primary schools and those who studied in public primary schools existed. In hypothesis five, t-test was used to find out whether there was a statistically significant difference in the teachers' perception on the students 'academic performance between students who were graduates of public primary schools and those who were graduates of private primary schools admitted at Alliance national schools. Lastly, in hypothesis six t- test was used to test whether there was a statistically significant difference between the students' perception of the learning environment of the primary school they attended and that of the Alliance national secondary schools. In hypothesis two ANOVA was used to find out whether there was a difference in the progressive secondary school examination mean scores in the core subjects between students who schooled in public primary school and those with a private primary school background admitted at Alliance national schools.

In hypothesis three and four simple regression was conducted to find out whether KCPE examinations means scores in the core subjects had a significant influence on the progressive secondary school examination mean scores in the respective subjects among students who schooled in public and private primary schools respectively.

3.11 Ethical Considerations

Research ethics refer to the application of moral rules and professional codes of conduct to the collection, analysis, reporting and publication of information about research subjects. In particular active acceptance of subjects rights to privacy, confidentiality and informed consent is a major concern (Gordon, 1998). Hiller and Jameson (2003) insist that ethical considerations should ensure that **i**nformed consent in which permission is sought to conduct research among the selected population is done. In line with this, permission was obtained from the Ministry of Education to conduct research in the selected schools and a research permit was issued. Further consultation was done with the office of the County Director of Education in Kiambu County who wrote to the two school requesting the principals to provide the required data for research. The written permission to conduct the research was presented to the principals of secondary schools selected for the study. The researcher then explained the purpose of the study to the principals and requested to be allowed to have the students in the respective schools involved in the study. Once the permission was granted, the students were given a summary of objectives of the study without informing them the hypothesis.

The researcher ensured that respect of participants was upheld. The participants were informed that the answers they were to give would be taken as the accurate representation of the issue under question. Care was also taken to ensure that that the questions items in the questionnaire respected the participant's rights and did not demean them in any way. Privacy and anonymity were taken care of so as to maintain a high level of confidentiality on the information collected. To enhance this, data was coded and school admission number used on the questionnaires as a means of identification instead of the students' names. The schools were also identified by a code

and not by name to give anonymity to any third party that may access the data. The researcher has upheld professionalism by reporting the truth as per the research findings.

Table 3.2: Data Analysis Matrix Table

Null Hypothesis	Independent variable	Dependent variable	Statistical test
Ho1 There is no statistically significant difference in KCPE examination means score in the core subjects between students who schooled in public primary schools and those who schooled in private primary schools admitted at Alliance national schools.	Category of primary school attended	KCPE Examination mean scores in the core subjects	t- test
Ho.2 There is no statistically significant differences in the progressive secondary school examination mean scores in the core subjects between students who schooled in public primary school and those who schooled in private primary schools admitted at Alliance national schools.	Category of primary school attended	Secondary school examination mean score in Kiswahili, English +Mathematics	ANOVA
Ho3. KCPE examination mean scores in the core subjects have no statistically significant influence on the progressive secondary school examination mean scores in the respective subjects among private primary schools graduates admitted at Alliance national schools.	KCPE mean score	Secondary school examination mean score in Kiswahili, English Mathematics	Simple Regression

Ho4. KCPE examination mean scores in the core subjects have no statistically significant influence on the progressive secondary school examination mean scores in the respective subjects among private primary schools graduates admitted at Alliance national schools.	KCPE mean score	Secondary school examination mean score in Kiswahili, English Mathematics	Simple Regression
Ho 5. There was no statistically significant difference in the teachers' perception on the students 'academic performance between students who are graduates of public primary schools and those who are graduates of private primary schools admitted at Alliance national schools	Students' primary school background (public or private)	Teachers perception on students' academic performance	t- test
Ho 6. There was no statistically significant difference between the students' perception of the learning environment of the primary school they attended and the Alliance national secondary school learning environment.	Students perception of the primary school learning environment	Students perception of the secondary school learning environment	t-test

3.12 Chapter Summary

This chapter has provided a description of the research design and methodology that was adopted for this study. Information on the research area, research methodology including research design, population and sampling procedures has been discussed. The chapter has been concluded by discussing administration of research instrument, ethical considerations and finally how the collected data was analyzed.

CHAPTER FOUR

PRESENTATION, ANALYSIS INTERPRETATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter presents the results and discussion of the findings of the study based on the objectives and hypotheses of the study which were as follows:-

The objectives of the study were:-

i) To find out whether there were significant differences in KCPE examination mean scores in the core subjects between students who schooled in public primary schools and those who schooled in private primary schools admitted to Alliance national secondary schools.

ii) To compare the academic performance trends in the core subjects between the students who schooled in public primary schools and those who schooled in private primary schools admitted to Alliance national secondary schools.

iii) To examine the relationship between KCPE examination mean scores and the progressive secondary school examination mean scores in the core subjects among students with public primary school background admitted to Alliance national secondary schools.

iv) To examine the relationship between KCPE examination mean scores and the progressive secondary school examination mean scores in the core subjects among students with private primary school background admitted to Alliance national secondary schools.

v) To analyse the teachers' perception regarding academic performance of secondary school students with public primary school background and those

with private school background admitted to Alliance national secondary schools.

vi) To analyze the students' perception of the learning environment of both the primary schools they attended and that of the Alliance national secondary schools.

These were tested using the following hypothesis:-

Ho 1. There is no statistically significant difference in KCPE examination mean scores in the core subjects between students who schooled in public primary schools and those who schooled in private primary schools admitted to Alliance national secondary schools.

Ho.2 There is no statistically significant differences in the progressive secondary school examination mean scores in the core subjects between students who schooled in public primary school and those who schooled in private primary schools admitted at Alliance national schools.

Ho 3. KCPE examination mean scores in the core subjects have no statistically significant influence on the progressive secondary school examination mean scores in the respective core subjects among public primary schools graduates admitted to Alliance national secondary schools

Ho 4. KCPE examination mean scores in the core subjects have no statistically significant influence on the progressive secondary school examination mean scores in the respective core subjects among private primary schools graduates admitted to Alliance national secondary schools

Ho5 There was no statistically significant difference in the teachers' perception on the students 'academic performance between students who are graduates of public primary schools and those who are graduates of private primary schools admitted to Alliance national secondary schools

Ho6 There was no statistically significant difference between the students' perception of the learning environment of the primary school they attended and that of the Alliance national secondary schools.

Each of the six hypotheses is re-stated followed by a presentation of the findings. Tables on

t – test and correlation of variables are used in aiding the presentation. Mean on raw total marks out of 100 for Mathematics, English and Kiswahili secondary school examinations were used as a basis of measuring secondary school progressive students' achievement in secondary school. The three are the core subjects in the form three and four secondary school curriculum. The examination results used were the ones sat for at end of year one and two secondary school examinations and end of term two of year three examinations respectively. Alpha level of .05 was used to test the hypotheses.

4.2 Comparison of KCPE Examination Mean Scores in Core Subjects Between Students who Schooled in Public Primary Schools and those who Schooled in Private Primary Schools.

The first objective was to find out whether there were significant differences in KCPE examination mean scores in the core subjects between students who schooled in public primary schools and those who schooled in private primary schools admitted in Alliance national secondary schools. To achieve this objective, the following null hypothesis was formulated:

Ho1: There is no statistically significant difference in KCPE examination means score in the core subjects between students who schooled in public primary schools and those who schooled in private primary schools admitted at Alliance national schools.

To test this hypothesis, a t-test was carried out on data from the sample of the selected students. The means and standard deviations of the KCPE examination mean scores for the two groups is shown in Table 4.1.

Table 4.1: Sample KCPE Examination Mean Score in Core Subjects of Private and Public Primary School Graduates

Core Subject	Category of primary school attended	N	Mean	Mean difference between the two groups	Std. Deviation
KCPE Mathematics score	Public	362	82.40		5.081
	Private	344	83.92	1.52	4.939
KCPE English score	Public	362	81.85	2.84	6.634
	Private	344	84.69		5.877
KCPE Kiswahili score	Public	362	84.11	2.21	7.265
	Private	344	86.32		7.702

Source: Field Data (2016)

The data reveals that the KCPE examination mean scores in the three subjects was high being above 80% in all the cases. Further analysis of the data reveals that students who schooled in private primary schools had higher entry mean scores than their counterparts who schooled in public primary school. A closer look at the subject performance showed that of the three subjects, Kiswahili was the best performed among this group of learners but also had the highest variation as shown by the standard deviations of 7.26 and 7.702 among public and private primary school graduates

respectively. The difference in the KCPE Kiswahili examination mean score between the two groups of students was 2.21.

The high KCPE examination mean scores in Kiswahili were perhaps because the subject is the most widely spoken national language throughout the country. This could have made both groups of students to find the subject relatively easier compared to the other two subjects. English was the second best performed subject among the three subjects among the private primary school graduates but not among the public ones. The subject had also the highest difference in mean scores of 2.84 between the students who schooled in public primary schools and those from private primary schools. It also had the second highest standard deviations among the two groups of students. Mathematics on the other hand had the lowest difference of 1.52 among the two groups of students and the second best performed subject among the public primary school graduates. This suggests that mathematics was the subject that was least affected by the differences in the school learning environment between public and private primary schools.

To test whether there were statistically significant difference in KCPE examination means scores in the individual core subjects between students who schooled in public and private primary schools admitted to Alliance national secondary schools; t-test was used at .05 level of significance. Results of the independent samples t-test computed for KCPE examination mean scores for these two groups of students are shown on Table 4.2

Table 4.2: Sample of KCPE Examination Mean Score in Core Subjects, SD and t Value of Private and Public Primary School Graduates

	Students Formerly in Public Primary Schools (N = 362)		Students Formerly in Private Primary Schools (N = 344)			
Subject	Mean	SD	Mean	SD	t	p
Mathematics	82.40	5.08	83.92	4.94	-3.826	.000
English	81.85	6.63	84.69	5.88	-5.695	.000
Kiswahili	84.11	7.27	86.32	7.70	-3.718	.000

Source: Field Data (2016)

The results in the Table 4.2 show that students who had schooled in private primary schools had higher KCPE examination mean scores than those who schooled in public primary schools in each of the three subjects, Mathematics (M=82.40, SD, 5,08), English(M=81.85, SD, 6.63) and Kiswahili (M=84.11, SD, 7.2.). The difference were significant in all the three subjects, (Mathematics t (705) = -3.826, p = .000, English t(705) = -5.695, p = .000 Kiswahili t (705) = -3718, p = .000).

Therefore hypothesis one that stated that there was no statistically significant difference in KCPE examination mean scores in the core subjects between students who schooled in public primary schools and those who schooled in private primary schools admitted at Alliance national schools is rejected. Therefore the two groups of students had different prior achievement with the students from private primary schools having a higher one as measured by their KCPE examination mean scores. However the study could not establish the cause of the differences. They could have been as a result of the differences in the learning environment in public and private primary schools as established by this study, other factors beyond the school or a combination of the two.

As in this study, differences in KCPE examination mean scores between learners in public and private primary schools have been reported by other studies (Muthee, 2011;

Ndirangu et al., 2005; Waweru, 2014,) Ndirangu et al. (2005) found a statistically significant difference in overall KCPE examination mean score between public and private primary school graduates admitted to provincial secondary schools in the then Nyandarua district (Now Nyandarua County). Private primary school graduates had been admitted with higher KCPE examination mean score than the public primary school graduates. Similar results were reported by Waweru (2014) nine years later in his study among secondary school students in Dagoreti district in Nairobi County. Ochenje (2015) found private primary school pupils in class four performed better than their counterparts in the same classes in public primary school. This was in the researchers' study that compared academic performance of public and private primary school learners after three years of Free Primary Education (FPE) implementation. Similar findings were reported by Muthee (2011) in the study among class eight pupils in Nairobi County. The findings of this study are specifically partly in agreement with Dixon, Tooley and Schagan (2012) who in their multi-level regression analysis found a statistically significant relationship between private school attendance and test score in Mathematics and Kiswahili. This was in their study that investigated the relative quality of private and public schools for low-income families living in slums of Nairobi, Kenya.

School learning environment has been identified as key in explaining differences in academic achievement among learners in across schools (Abagi & Odipo, 1997; Frenette & Chan, 2015; Lloyd, Mensch & Clark, 2000; Ochenje, 2015). Waweru, (2014) and Ndirangu, Githua and Gitogo (2005) attribute the differences in KCPE examination mean scores among public and private primary schools graduates to the differences in the learning environment. This was as suggested by Lloyd, Mensch and Clark (2000) who in their review of literature on factors influencing academic

achievement concluded that three major educational processes that contribute immensely to positive outcomes in standardized tests are time to learn, material inputs and effective teaching. These have been found to be different in public and private primary schools in Kenya (Abagi & Odipo, 1997)

Time to learn may be assessed by evaluating the time the school is in session as well as time spent in the classroom. From as early as 1997, differences in contact hours between learners in public and private primary schools in Kenya had been observed (Abagi & Odipo, 1997). MoEST stipulates that 8-4-4 curriculum requires an average teacher-pupil contact of 28 hours per week for the upper primary schools and 20 hours for the lower primary. However, Abagi and Odipo pointed out that this was rarely attained. In their study, they observed that learners in public primary schools had far less contact hours with their teachers when compared with their private primary school counterparts. They further observed that the stipulated learning teaching time in Kenyan schools was not utilized efficiently. This resulted in extra tuition being organized for pupils after classes and on weekends to cover the syllabus while they remained idle during class hours. Their survey found that rural public, urban public and private schools wasted 100.8, 46.2 and 14.7 hours per week respectively. Fewer hours were wasted in private school perhaps due to close supervision and this could in part have explained their better performance in KCPE examination when compared with public primary schools.

The situation has not changed much over time as Day et al. (2014**)** rigorous review of evidence on the role and impact of Low Fee Private school education for school aged children in developing countries revealed. They found strong evidence among the studies they reviewed that teaching is better in private schools than in state schools.

Thus what goes on in the classrooms is also equally important for successful academic achievement. Ochenje (2015) supports this argument by drawing attention to the widely held beliefs among the Kenyan education stakeholders that teachers in private schools are more committed teachers to their work than those in public schools. This is thought to partly contribute to the better KCPE examination performance of private primary school learners when compared to their public primary school counterparts. The learners in public schools therefore do not gain as expected because teachers' interaction with the learners is very important in determining learners' achievement as suggested by Wright, Horn and Sanders (cited in Korir and Kipkemboi, 2014). Research findings suggest that some of the factors affecting students' academic achievement among Kenyan primary school pupils are completing and marking of assignment given by teachers as well as duration of students contact with their teachers (Martin & Pimhidzai, 2013, Uwezo, 2011, Thuku & Hungi, 2005, Abagi & Odipo, 1997). These are likely to take place only when there is adequate interaction between the pupils and there teachers.

The present study attempted to confirm whether the students involved in the study held the view cited in the studies as it relates to their perception of their primary school learning environment. A random sampled that yielded 173 and 169 public and private primary school graduates respectively was used to find out their perception of the peers, teachers, school administration and the classroom learning environment in the primary school they attended. The aim was to find out whether there was a significant difference in the perception the students who had schooled in public primary school had of their former primary schools when compared with those who had schooled in the private primary schools.

On students' perception of their primary school peers, the following was assessed; Friendliness of the peers, commitment of classmates in both assisting one another achieve their best academically as well as in participating in group work given by teachers. This assessed the students' perception of the social classroom environment. Motivation of students to leaning was assessed by their perception of their peers' general seriousness in their academic work, commitment in completing assignment given and their punctuality in attending classes.

Students who had a private primary school background had higher perception of their primary school peers than those who studied in public primary schools in most of the characteristics assessed. The highest difference was observed in perception of the commitment of the peers in completing assignment given by teachers followed by punctuality in attending classes. The only characteristic of their primary schools the students with a public primary school rated higher than those who had a private primary school background was commitment of their primary school peers in participating in group work given by teachers. This finding that showed differences in the perception of group work participation among the two groups was unexpected. The high competition among learners in private schools could perhaps have resulted in this perception among the learners. The possible reason being that high competition among private primary school learners encourage a more individualized learning that is mostly teacher dependent as opposed to cooperative learning where learners learn from each other (Ndirangu, Githua & Gitogo 2005). Overall, the difference in the students' characteristics between the two groups suggests that private primary school learners were more serious and dedicated in their studies than their public primary school counterparts. However the mean score differences between the two groups of students was very small. They may therefore have had little impact on the difference in KCPE

examination differences between students who schooled public and private primary schools respectively. This however, does not mean that these factors have no relationship with academic achievement in general.

The questionnaire also sought the students' perception of their primary school teachers. The information sought centered on assessing what they felt about their teacher's effort in creating a conducive socially interactive classroom environment and learner-centered teaching approaches. The results are as shown in Table 4.3.

Table 4.3: Number of Students and their Rating on the Perception of their Primary School Teachers' Commitment in Teaching.

Primary school teachers characteristic being rated	Category of primary school attended	1 (Very low)	2 (low)	3 (Average)	4 (High)	5 (Very high)
1.Commitment of teachers in making students understand what they are teaching	Public.	2.4%	2.0%	6.7%	28.2%	60.8%
	Private	2.4%	1.2%	3.6%	19.8%	73.0%
2.Availability of teachers for consultation by students outside class hours	Public	4.7%	6.7%	17.3%	22.4%	49.0%
	Private	3.6%	2.0%	9.6%	23.5%	61.4%
3. Approachability of the teachers by the students when the students have personal problems	Public	7.9%	5.2%	15.9%	24.6%	46.4%
	Private	6.5%	4.0%	12.5%	22.6%	54.4%
4. Teachers readiness in giving individual attention to students aimed at making them excel in their studies	Public	2.0%	5.6%	13.2%	26.8%	52.4%
	Private	2.8%	2.0%	8.5%	19.8%	66.8%
5. Marking assignments given by teachers and commenting on the school performance	Public	2.0%	4.3%	11.5%	20.9%	61.3%
	Private	1.2%	1.2%	4.0%	20.8%	72.8%
6. Equal treatment of students by teachers	Public	5.5%	3.9%	11.0%	26.0%	53.5%
	Private	5.2%	2.4%	10.5%	23.8%	58.1%
7. Subject teacher discussion on academic performance with each individual student	Public	11.1%	11.1%	15.1%	25.8%	36.9%
	Private	8.8%	3.2%	9.6%	26.4%	52.0%
8. Level of teachers expectation on students' academic performance	Public	3.1%	1.6%	8.3%	23.6%	63.4%
	Private	1.2%	0.4%	4.4%	16.1%	77.8%

Source: Field Data (2016)

The table show the way the students rated their primary school teachers on the listed characteristics in a scale of one to five with five being the highest rating expressed as a percentage. The highest rated primary school teachers' characteristic among the ones reviewed was the expectation they had on their students' academic performance. This was rated the highest by 63 % and 78% of those who had schooled in public and private primary schools respectively. These were the students who felt their primary school teachers gave their best in expressing their expectation on their students' academic performance. Following closely was the teachers' commitment in making their learners understand what they were teaching that was awarded the highest rate by 61% and 73% of the students who had schooled in public and private primary schools respectively. The lowest rating was on the subject teachers' discussion on academic performance with each individual pupil that was awarded the lowest rating of between one and two by 22% and 12 % of the students who had schooled in public and private primary school respectively. In addition this teacher characteristic had the highest rating variation of 15% between those who had school in public and private primary schools. Almost as twice the number of students who schooled in public primary schools were dissatisfied with the help they received from their teachers as individuals compared to their private primary school counterparts. The second lowest rated was the approachability of the teachers for consultation that was awarded the lowest rating of between one and two by 13% and 10% by the students who had schooled in public and private primary schools respectively. Overall, more students who had school in private primary schools awarded their primary school teachers the highest rating of five in all the characteristics explored than those who had schooled in public primary schools. This is as shown in Table 4.3.

This shows that teachers in private primary schools were assessed by their former pupils as having been more dedicated to their learners' academic performance than their public primary school counterparts. More than 70% of their former pupils felt they had high expectation of them, they marked assignments they gave and gave feedback as expected and were committed in making the students understand what they were teaching. Among the public primary school teachers, the rating of the same characteristics by their former pupils was rated the best by about 60% of their former pupils. It can thus be concluded that despite private primary schools having a better physical learning environment, teachers in these schools were also more dedicated in their work and had higher expectation of their students that those in public primary schools. An area of concern though was the low perception on equal treatment of learners by primary schools teachers that was awarded the highest rating of five by only 58% and 54% by students who had schooled in public and private primary schools respectively. This means that almost half of the students in the sample had some misgivings on the perceived fair treatment of the learners by the teachers.

It has been pointed out by Wright Horn and Sanders cited in Korir and Kipkemboi (2014), that the teacher is very important in determining learners' achievement. It is for this reason that the observed differences in the way the public and private primary school teachers related with pupils as reported by their former pupils is considered important in the present study. The differences in the interactions between pupils and teachers could therefore contribute to the explanation of the observed differences in KCPE examination mean scores in the core subjects among the two groups of students. The results of analysis of the students perception of their primary school learning environment is supported by the evidence gathered by Day et al. (2014) that teachers in private schools used better teaching approaches that were likely to improve learning

outcomes when compared to public primary schools. The finding is considered important as research findings suggest that one of the main factors affecting student's academic achievement among Kenyan primary school pupils is completing and marking of assignment given by teachers. This is in addition to the duration of contact the students have with their teachers (Abagi & Odipo, 1997; Martin & Pimhidzai, 2013; Uwezo, 2011; Thuku & Hungi, 2005).

In addition, Lloyd, Mensch and Clark (2000) observed that material inputs and effective teaching have also been identified by literature as contributing to positive outcomes in standardized tests. Material inputs include desks, textbooks and classrooms while effective teaching is judged through the pedagogical practices teachers engage in as well as their qualification. The availability of textbooks and other learning resources has been associated with high test scores among primary school learners with high initial academic achievement and those in their final year of primary school education (Glewwe et al. 2007). UNESCO (2016) asserts that a number of countries education policies have been influenced by the growing body of confirmation on the importance of text books in improving learning achievement. White (2004) also highlights the contribution of increased availability of textbooks on improved mathematics and English test score among learners undergoing basic education in Ghana between 1988 and 2003. In addition, classroom dynamics which Lloyd, Mensch and Clark (2000) define as aspect of the school and classroom dynamics beyond pedagogical practices that include extent of student participation, quality of teacher/student interaction and grouping of students to contribute to the school overall performance.

Due to the importance of material input and effective teaching in influencing academic performance, this study found it necessary to explore the public and private primary

school graduates students' perceptions of the two constructs in the respective primary schools they attended. This was done through the questionnaire items that explored the students' perception of the general classroom learning environment. The aim was to find out whether there was a major difference in the perception of the construct between the two groups that could possibly have had some relationship with the leaners performance at KCPE examination in English, Kiswahili and Mathematics at KCPE examination. Students' perception of their primary school classroom learning environment as it relates to availability and adequacy of the key learning resources and teaching approaches used by teachers in their primary schools was sought. The key learning resources in the primary school classroom learning environment that were investigated were adequacy of school textbooks for individual use by the students and classroom facilities that meant to provide comfort in the classrooms for learning in terms of sitting arrangement and adequate space. On classroom dynamics, monitoring of students' academic progress by teachers and level of competition in academic performance among students were assessed. This was in addition to class size that allows individuals students interact with teachers effectively during teaching and learning process and commitment of class teachers/masters in ensuring problems that may hinder effective learning are timely solved.

A moderately high perception of primary school classroom environment by the Alliance secondary schools students was registered among students who schooled in private primary school. An average one was found among those who had schooled in public primary schools. The details are as illustrated in Table 4.4

Table 4.4: Number of students and their Perception of their Primary School Learning Environment

Characteristics.

	Primary school Learning environment characteristic being rated	Category of primary school attended	1 (lowest)	2 (low)	3 (neutral)	4 (high)	5 (highest)
2.	Adequacy of school textbooks for individual use by the students	Public	11.1%	8.3%	15.8%	25.7%	39.1%
		Private	6.1%	2.9%	7.8%	15.9%	67.3%
3.	Comfort in the classrooms for learning in terms of sitting arrangement and adequate space	Public	6.7%	6.3%	13.5%	21.8%	51.6%
		Private	4.1%	1.2%	4.9%	13.6%	76.1%
4.	Teachers monitoring of students' academic progress	Public	3.6%	3.2%	12.7%	27.9%	52.6%
		Private	3.3%	1.2%	4.1%	20.5%	70.9%
5.	Level of competition in academic in academic performance among students	Public	7.5%	5.6%	15.5%	23.0%	48.4%
		Private	6.6%	4.5%	18.9%	13.2%	56.8%
6.	Class size that allows individuals students interact with teachers effectively during teaching learning process	Public	4.3%	5.9%	13.0%	29.6%	47.0%
		Private	4.5%	2.9%	7.0%	14.4%	71.2%
7.	Commitment of class teachers/masters in ensuring problems that may hinder effective learning are timely solved	Public	6.0%	4.8%	16.7%	27.4%	45.2%
		Private	4.1%	2.1%	12.3%	25.1%	56.4%

Students who had schooled in private schools had more students scoring the highest score of five than those who had schooled in public primary schools. These were the students who were fully satisfied with the respective characteristic of learning environment surveyed. The primary schools characteristics that most students in private primary schools were fully satisfied were; comfortable classroom of adequate size, class size that allowed effective teacher learners interaction and monitoring of leaners by the by the teachers. About 76%, 71% and 71% of these students respectively were fully satisfied with the mentioned characteristic of their primary schools'

classroom learning environment. Among those who had schooled in public schools, only two of the characteristics investigated were felt to have been the best by about 50% of the students. These were teachers monitoring of their students' academic performance and comfortable classroom of adequate size that was felt to have been best by about 53% and 52% of the students respectively.

This was unlike among those who schooled in private primary schools where in all cases, more than 50% of the students were satisfied with each of the characteristic of the classroom learning environment being investigated. The largest variation among those who had schooled in public and private schools was in the number of students fully satisfied with the adequacy of school textbooks (28%) and class size that allowed individual students interaction with their teachers (24%). The large variation in the number of students fully satisfied with of the availability of text books between students who had schooled in public and private primary schools in this study suggest that private primary school graduates had better access to textbooks than their public primary school graduates. This shows that despite the Kenyan government providing funds for the purchase of textbooks in public primary schools, the effect was not being adequately felt by the pupils in these schools. This is likely to have had some impact on the difference in KCPE examination mean scores in the core subjects among students who schooled in public and private primary schools. In fact, the impact of the difference in textbook availability may have been of greater importance among this group of learners than the general primary school population. This is when the finding by Glewwe et al. (2007) that found availability of textbooks to have been more associated with high test scores among the above average learners than the average learners is taken to account.

When independent t- test was carried out, a statistical significant difference in almost all the aspects that evaluated the students' perception of their primary school classroom learning environment were noted as shown in Table 4.5.

Table 4.5: The Paired t-test of the Students Perception of their Primary School Learning Environment

		Paired Samples Test		
		t	df	p(2-tailed)
Pair 1	Overall students' perception of public and private school learning environment	3.848	332	0.000

These findings on the exploration of the public and private primary school classroom learning environment among the Alliance secondary school students supports the literature that suggest the main contributing factor to the differences in academic performance between the two sectors is the differences in their learning environment (Abagi & Odipp, 1997; Ndirangu et al.; Waweru, 2014). This means that despite the government effort in improving the learning environment in the basic education by providing funds for purchase of learning resources, the disparity in public and private primary schools classroom learning environment continue to persist Martin & Pimhidzai, 2013). This is in spite of possibility that some of the public primary school graduates in Alliance national secondary school could have come from school that possibly matched the private primary schools that posted good KCPE examination mean scores. Indeed the principal of Alliance boys (2016) suggested this in his statement that majority of the boys from public primary schools came from the schools of the likes of Musa Gitau boarding primary school that have good physical infrastructure and learning resources. Such public schools according to the principal

had an environment similar to if not better than most private primary schools. There are such public primary schools across the country and as such this could be a reality.

The other area of primary school learning environment that was investigated was the schools administration's effort in providing a conducive learning environment. Six aspects of the school administration that were considered as key in promoting a conducive school learning environment were investigated. These were commitment of school administration in ensuring the students have uninterrupted schooling even when having challenges of raising school fees or school levies and effectiveness of the school administration in solving problems among students such as those that relate to student's discipline, health and security. Others were effectiveness of communication between the school administration and the parents / guardians aimed at making individual students perform their best and school administration communication to students' expectation on their academic achievement. Lastly was level of both the school administration cooperation with parents in improving the school learning environment as well as level of the students' body involvement in maintaining or creating conducive environment.

The school administration communication to student's expectation on their academic achievement was rated as perfect by 61% of students who schooled in public primary schools and 75% of those who had schooled private primary schools. The difference in the rating between the two groups show that students who had attended private primary school felt that their school administration was more committed in communicating to the students their expectation on their academic achievement. Of concern on the students perception of their primary school administration was the low perception on the students' body involvement in maintaining or creating a conducive primary school learning environment. Only 53% and 44% of the graduates of private and public

primary schools respectively felt the learners were fully involved. This was against the suggestion by Fletcher (2005) who opines that students should be involved in the creation of a positive school climate by being given a chance to make some important decisions in their learning. This should include what they learn, how they learn and how their learning is evaluated. When this is done, improved teacher-student relationships and increased student engagement with their learning is an expected positive consequence (Mitra, 2004; Fielding, 2001; Rudduck & Flutter, 2000). The resultant raised student self-esteem and efficacy would improve students' learning resulting in raised test scores.

Secondly, perception on the commitment of school administration in ensuring the students had uninterrupted schooling even when having challenges of rising school fees/ levies was lower among graduates of public primary schools. This was unexpected as the Free Primary School Education programme in Kenya is meant to improve access to education through shielding learners from being sent away from school due to unpaid school fees or levies. What emerges from the finding of this study therefore is that some public primary school do charge some levies and further that they are uncompromising in the payment of these levies. Alternatively, it could be that many of the students from public schools studied in boarding primary schools where boarding fees is charged. The likely impact could have been interruption in the learner's school attendance. Communication to students on the expectation on their academic achievement have been found to have a significant relationship with students' academic achievement (Cooper, 2000; Rosenthal & Jacobson 1968). This may have been aspect of the primary school administration that may have contributed the differences in the KCPE examination mean scores in the core subjects that was noted.

Due to quota system of admission to national schools, the cohort of students admitted to Alliance boys and girls selected for the study are taken to be a fair representation of the average public and private primary schools in Kenya. They came from all the 47 counties in the country and their general perception was that the private primary school learning environment over a better learning environment than the public one. This could there have had a major influence on difference in their KCPE examination mean score at the point of admission to secondary school.

4.3 Comparison of Secondary School Academic Performance Trends of Public and Private Primary School Graduates.

The second objective was to compare the academic performance in English, Kiswahili and Mathematics at the end of year one and two and end term two year three among the students who schooled in public primary schools and those who schooled in public primary schools. To achieve this objective, the following null hypothesis was formulated;

Ho.2. There is no statistically significant differences in the progressive secondary school examination mean score in the core subjects (English, Kiswahili and Mathematics) between students who schooled in public primary school and those who schooled in private primary schools admitted at Alliance national schools.

Table 4.6 shows the public and private primary school graduates' KCPE Examination mean scores and the secondary school English, Kiswahili and Mathematics examination mean score at end of year one, two and end of term two in year three expressed as a percentage. Out of the 706 students whose KCPE examination mean scores were analyzed in hypothesis one, 16 of them had some missing data or had dropped out of school and as such their data was not captured leaving 690 students.

Table 4.6: *KCPE Examination and Secondary School English, Mathematics and Kiswahili Examination Mean Scores Standard Deviations.*

	Category primary school attended	N	Mean	Std. Dev	Mean difference
KCPE examination English mean score	Public	351	81.85	6.634	2.84
	Private	339	84.69	5.877	
English secondary school examination mean scores at form 1	Public	351	65.78	11.08	2.32
	Private	339	70.1	10.307	
English secondary school examination mean scores at form 2	Public	351	60.37	9.733	2.99
	Private	339	63.36	9.299	
English secondary school examination mean scores at form 3	Public	351	49.72	16.426	2.81
	Private	339	52.53	17.345	
KCPE examination Mathematics mean score	Public	351	82.4	5.081	1.52
	Private	339	83.92	4.939	
Mathematics secondary school examination mean scores at form 1	Public	351	84.84	10.865	1.39
	Private	339	86.23	11.683	
Mathematics secondary school examination mean scores at form 2	Public	351	51.44	15.87	0.92
	Private	339	52.36	16.394	
Mathematics secondary school examination mean scores at form 3	Public	351	49.57	18.094	0.17
	Private	339	49.71	18.358	
KCPE examination Kiswahili mean score	Public	351	84.11	7.265	2.21
	Private	339	86.32	7.701	
Kiswahili secondary school examination mean scores at form 1	Public	351	75.68	9.746	1.12
	Private	339	76.8	10.756	
Kiswahili secondary school examination mean scores at form 2	Public	351 339	64.25	11.844	0.92
	Private	351	65.17	12.132	
Kiswahili secondary school examination mean scores at form 3	Public	339	55.15	11.948	0.27
	Private		55.42	13.054	

Source: Field Data (2016)

The data from the Table 4.6 reveals that students with a private primary school background consistently performed better than their counterparts with public primary

schools in the three core subjects. The differences were apparent at each of the three points in their secondary school education from which data was collected. These were at the end of term one in form one and two and end of term two in form three. These differences in the secondary school examination raw means score were highest and most consistently marked in English at each point of data collection. On consistency, there was very little difference in the KCPE English examination means score between the two groups (2.84) and the form three secondary school English examination (2.81). This shows that the range difference in the prior performance at KCPE in English examination mean scores between the two groups of students was the largest and did not vary much as the students progressed through secondary school education. On the other hand, the differences were minimal in Mathematics and Kiswahili especially after the first year of their secondary school education. The difference in Mathematics means score between the two groups at form two and three were 0.92 and 0.17 respectively. Likewise, the difference in Kiswahili mean score between the two groups was 0.92 and 0.27 at the same classes respectively. The students who schooled in public primary school who were admitted with lower KCPE examination mean scores had almost caught up with their private primary school counterparts admitted with higher KCPE mean scores at form three in the two subjects.

The data further reveals that the academic performance in each of the subjects being evaluated declined as the student's progressed with secondary school education. The decline was most apparent in Mathematics where it declined from a high of 83.92 % at KCPE examination at admission to a low of 49.71% at form three among private primary school graduates. The mean score for their public primary school counterpart did not fare any better as the decline was from 82.4 % to a low of 49.57 % at form three. Both mean scores at form three were below the 50 %.

This was an unexpected finding since these were the best KCPE examination performers in Mathematics in the country and were in schools that constituently performed exceptionally well at end of form four KCSE examination. ANOVA test was carried out to find out whether the observed differences among public and private primary school graduates in their progressive secondary school academic performance differed significantly. The ANOVA results are shown in Table 4.7

.Table 4.7.:One-way ANOVA Test Results for the Progressive English, Kiswahili and Mathematics Secondary School Examination Mean Scores.

Core Subject mean		Sum of Squares	df	Mean Square	F	Sig.
English	Between Groups	1654.68	1	1654.68	14.026	.000
	Within Groups	67481.135	689	117.974		
Kiswahili	Between Groups	61.766	1	61.766	0.752	0.386
	Within Groups	46962.206	689	82.102		
Mathematics	Between Groups	49.862	1	49.862	0.318	0.573
	Within Groups	89585.822	689	156.619		

Source: Field Data (2016)

The ANOVA results revealed mix results. The results indicated that there was a statistically significant difference in English (F1, 689) =14.06, p=0.00). However there was no statistically significant difference Kiswahili (F1, 689) =0.752, p=0.386) and Mathematics (F1, 689) =0.318, p=0.573). The hypothesis that stated; There is no statistically significant differences in the progressive secondary school examination mean scores in the core subjects between students who schooled in public primary school and those who schooled in private primary schools admitted at Alliance national

schools was therefore rejected for English since p was less than .05. It was however accepted for Kiswahili and Mathematics because p was greater than .05 in both cases.

The hypothesis thus reveals that students at Alliance national secondary schools from private primary schools continued to perform better than those from public primary schools. However, the differences were only significant in English. The implication is that the differences in the primary school learning environment may to some extent have had some influence on the observed differences in the KCPE Examination mean scores between students who schooled in public and those who schooled in private primary schools. The influence may however have been more in Kiswahili and Mathematics KCPE examination mean scores but very little if any in English. However, this may not have been sorely the course of the observed disparity. Other factors not within the schools may also have had some contribution in the differences in the KCPE examination mean scores between the two groups.

The observed decline in academic performance in the core subjects at secondary school level when compared to the primary school level among the students admitted to the Alliance national secondary schools could have a number of explanations. The first one could be the expanded syllabus and the increased level of subject difficulty as the students progressed through secondary school education. Overall, Kiswahili progressive means scores appear to have been more relatively stable than in English and Mathematics (See Table 4.6**).** This perhaps was because Kiswahili is the most widely used language in Kenya. As such, students got an opportunity outside the school to learn the subject in their everyday interactions.

The sharp decline in Mathematics on the other hand especially at form three is of concern. A mean score of below 50 percent in Mathematics for students in schools

that normally have almost all the candidates scoring straight As at KCSE examination was an unexpected phenomenon. There is a possibility that the schools had a policy of setting difficult questions that are strictly marked to check on the students' overconfidence in their academic ability. Another observation is that apart from English, the mean difference between the two groups declined steadily as the students progressed through secondary school education. For instance the KCPE Mathematics examinations mean difference between the public and a private primary school graduates was 1.52. This declined to 1.39 at the end of form one, 0.92 at form two and finally to a low of 0.17 at the end of term two in form three secondary school examinations (See Table 4.6). The observations suggest that indeed the overall primary school climate may have had an impact in the learners' academic performance in the Mathematics. This is because when the two groups of learners learnt under a similar conducive secondary school learning environment, the differences in their mean score decreased steadily as they progressed through secondary school education. This is in spite of the secondary school examinations appearing to be progressively difficult as the students' progress through the secondary school education.

Further analysis tested the possibility of statistically significant differences in the English mean scores among the two groups of students at each point of data collection in order to understand whether statistically significant differences were there in all the cases. When the independent t-test was carried out statistical significant differences emerged in English at all point of data collection. Table 4.8 gives a detailed account on secondary school English examination test score of the students who had schooled in public and private primary schools respectively at form one, two and three.

Table 4.8: Secondary school Public and Private Primary School Graduates Progressive English Secondary School Examination Mean scores t value and Significant Level at .05 Confidence Level

	t-test for Equality of Means		
	t	df	Sig. (2-tailed)
English secondary school examination mean scores at form 1	-4.973	689	.000
English secondary school examination mean scores at form 2	-3.931	689	.000
English secondary school examination mean scores at form 3	-2.065	689	0.039

Source: Field Data (2016)

The t values for secondary school English examination at all the three stages of data collection were form one t (689) =-4.973, p =.000, form two t(689) = -3.931, p =.000 and form three t(689) =-2.065, p = .039. The differences in the secondary school examination English examination mean scores were therefore statistically significant at all the three points of data collection, form one, two and three. The better performance of private primary school graduates with a big margin in English was thus undisputed based on the data collected. Thus students who schooled in private primary schools continued to perform better than their public primary school graduates in the English secondary school examinations. This finding suggest that the superior performance of private primary school graduates in KCPE English examination could have been more due to other factors other than the difference in the public and private primary school learning environment. This is because the differences in the subject continue to be significant in secondary school where the two groups were learning under the same learning environment. However the difference in the other two core subjects (Kiswahili and Mathematics) were not significant. This could suggest that the advantage the private primary school graduates had over their public primary school counterparts in English performance during the primary school formative years had a lasting effect and

continue as student progress through education. The improvement of the learning environment to the disadvantaged public primary school counterparts in secondary school did result in closing that gap unlike in Kiswahili and Mathematics.

The differences in progressive secondary school Mathematics and Kiswahili examination mean scores between public and private primary school graduates revealed no statistically significant differences at .05 confidence level. This means that though the private primary school graduates had consistent higher mean scores, the differences were minimal and unlikely to have a profound effect. The implication is that the differences in KCPE Mathematics and Kiswahili examination mean score between public and private primary school graduates was most likely to have been as a result of the differences in the learning environment in the public and private primary schools respectively.

The first implication of the findings related to this hypothesis is that there is a possibility that performance in English language is influenced more by other factors other than the school learning environment. Further, those factors outside the school learning environment give the learners who attended private primary schools more advantage than their public primary school counterparts. Since the main difference in the characteristic of the learners in the two sectors is mainly their family SES and parents level of education, this could have been responsible for the differences both at KCPE English examination mean scores and the progressive secondary school English examination mean scores. Several studies in Kenya have linked high family SES and level of education to superior academic achievement (Hungi, 2011b, Githua, 2005; Ogaki & Musa, 2014; Thuku & Hungi, 2005; Wasanga & Ogle, 2011). The second implication is that public and private primary school graduates in Alliance national secondary school may not differ significantly in their Mathematics and Kiswahili

academic potential. The differences in the two groups mean scores in the respective subjects observed at KCPE examination may have therefore been as a result of the differences in the school environment in their respective primary schools. This therefore would mean that the affirmative action in admission to national secondary schools in favour of public primary school graduates was justified.

Why there is a statistically significant difference between the two groups in English and not in Kiswahili yet both are languages is a question that begs answers. A possible explanation of this phenomenon is that performance in English has been found to be influenced by learners' family SES (Davis-Kean, 2005;Gustafsson et al, 2011; Myrberg & Rosen, 2009). Learners who attend most private primary schools in Kenya are mostly from high or middle income families with a higher SES compared to families whose children are in public primary schools (Glennerster, eta al., 2011). Graduates of private primary schools are more likely to use English more especially when out of school which is believed to enhance the understanding of the subject. This perhaps translated in their higher English secondary school examination mean scores when compared to their public primary school counterparts.

The wide use of Kiswahili in everyday life among Kenyans of all walks of life may explain the better performance of the subject both at KCPE and secondary school examination than English. Therefore Kiswahili use outside the school environment may not have accorded either the public or private primary school graduates any advantage. English is however a language that is commonly used by families in the higher SES bracket only. The more use of English language by those from high SES who dominate private primary schools therefore appear to have a lasting positive effect on the performance of English. The advantage in the English academic performance that the private primary school graduates had was such that their public primary school

counterparts were unable to bridge when studying under the same learning environment.

A further close scrutiny of the data reveals some interesting findings. Generally the standard deviation in the mean score increased as the students' progress through secondary school education. By the time the students were in form three, the standard deviation in Mathematics was the highest at 18.358 and 18.094 for students with private and public primary school background respectively. This was followed by English at 17.345 and 16.426 among private and public primary school graduates respectively. In Mathematics and Kiswahili, students with a private primary school background had their performance experiencing a higher standard deviation than those from public primary schools. This was a reverse of KCPE examination mean scores where graduates of public schools had a large standard deviation than the private school counterparts. Private primary school graduates went to primary schools that had a more advantaged school learning environment without such a wide disparity. The evidence is the higher perception of their primary school climate that had a lower standard deviation when compared to that of public primary school graduates. Public primary schools from across the country on the other hand had a less favourable school climate with a wider range as shown by the lower scores and higher standard deviation of the perception of their primary school environment. This might have had an impact on their KCPE examination performance which may be the cause of the lower KCPE examination mean scores with a higher standard deviation.

However, when evaluating the secondary school academic achievement, the disparity in the school learning environment had been controlled by selecting only students who joined the Alliances national secondary schools that are thought to have one of the best learning environments. As such students who were graduates of private primary schools

were moving from a favourable school climate to an equally favourable one. The trend in their primary school examination mean scores and standard deviation would have been expected to remain relatively stable. The examination mean scores and standard deviation of the public primary school graduates on the other hand would have been expect to narrow down. The reasoning being that unlike in KCPE examination, the wide variance in learning environment in public primary schools had been controlled by the learners being in a similar more conducive learning environment. The assumption in both cases is that the students from the two groups were of comparable academic potential having been among the very best in the respective areas they came from. Incidentally, this was not the case as the standard deviations increased as the students progressed with the secondary school education.

A possible explanation of this finding would be that the KCPE Mathematics and Kiswahili examination means score among the private primary school graduates had been inflated beyond their academic potential. This could therefore have been the cause of the unexpected turn of the tables in the examination mean scores standard deviation between public and private schools graduates. The possible boosting of the KCPE examination mean cores among the private primary school graduates could have occurred through learning tricks of answering KCPE multiple choice question items correctly without necessarily understanding the reason behind the correct answer. Ochenje (2015) mentions of a widely held beliefs that private primary school KCPE candidates perform better than their public primary school counterparts because of the couching and drilling to pass examinations that goes on in these schools. There is a possibility that the academic performance of the Alliance national secondary school students that was devoid of any preparation for high stake examination revealed their true academic potential. The high standard deviation in Mathematics and Kiswahili

examination mean scores could have occurred as a result of the differentiation between students who score highly in KCPE examination as a result of drilling and couching to pass the examination and those whose score was a true reflection of their academic potential. This is an area that needs more thorough investigation.

4.4 Comparison of KCPE Examination Mean Scores in The Core Subjects and Progressive Secondary School Mean Scores in The Respective Core Subjects Among Public Primary School Graduates.

The third objective aimed at finding out whether there was a relationship between KCPE examinations mean scores in the core subjects among private primary school graduates and their progressive secondary school mean scores among students admitted at Alliance national secondary school. To achieve the objective, the following hypothesis was used;-

Ho 4: KCPE examination mean scores in the core subjects have no statistically influence in the progressive secondary school examination mean scores in the respectively core subjects among public primary schools graduates admitted at Alliance national schools.

A simple linear regression was carried out to investigate the influence KCPE examination mean scores in English, Kiswahili and Mathematics might have on the progressive secondary school examination means scores in the respective subjects. Table 4.9, 4.10 and 4.11 shows the relationship coefficients of the KCPE examination mean scores and the progressive English, Kiswahili and Mathematics secondary school examination mean scores in the respective subjects.

Table 4.9: Relationship Coefficients of KCPE English Examination Means Scores and the Progressive Secondary School English Examination Mean score among public Primary School Graduates.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	25.808	7.298		3.537	.000
KCPE English score	.404	.089	.243	4.543	.000

Dependent Variable: Progressive Secondary school English examination mean score

Table 4.10: Relationship Coefficients of KCPE Kiswahili Examination Means Scores and the Progressive Secondary School Kiswahili Examination Mean score among public Primary School Graduates

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	71.184	2.822		25.226	.000
KCPE Kiswahili mean	.197	.043	.246	4.609	.000

Dependent Variable: Progressive Secondary school Kiswahili examination mean score

Table 4.11: Relationship Coefficients of KCPE Mathematics Examination Means Scores and the Progressive Secondary School English Examination Mean score among public Primary School Graduates.

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Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta		
(Constant)	-12.820	10.646		-1.204	.229
KCPE Mathematics mean score	.909	.129	.362	7.502	.000

Dependent Variable: Progressive Secondary school Mathematic examination mean score

A significant regression equation was found in the three subjects. It was (F (1,330) = 20.636, P=.000) with an R^2 of .059 for English, (F (1,330) =21.241, P=.000) with an R^2

of .061 for Kiswahili and for Mathematics, (F (1,330) = 49.720, p=.000) with an R^2 of .131. The KCPE English, Kiswahili and Mathematics examination means scores were found to have a significant effect on the progressive secondary school English, Kiswahili and Mathematics examinations mean scores among public primary school graduates (t=4.543, p=.000) English, (t=25.226, p=.000) Kiswahili and (t=7.052, p=.000) Mathematics. The null hypothesis that stated that KCPE English, Kiswahili and Mathematics examination mean scores had no statistically significance influence on progressive secondary school examination mean scores in the core subjects was therefore rejected because the value of t was less than 0.05 in the three cases

Further KCPE English and Kiswahili examination means score explained about 6% (R^2=.059 and .061 for English and Kiswahili respectively) of the total variation in the progressive secondary school examinations mean score in the respective subjects. The remaining 94 % unexplained variation was attributed to other variables outside the model. KCPE Mathematics examination means score explained about 13% (R^2=.131) of the total variation in the students progressive secondary school examinations mean score in Mathematics. The remaining 87 % unexplained variation was attributed to the variations in other variables outside the model.

4.5 Comparison of KCPE Examination Mean Scores in the Core Subjects and the Progressive Secondary School Mean Scores in the Respective Core Subjects among Private Primary School Graduates.

The fourth objective of the study aimed at finding out whether there was a relationship between KCPE examination mean scores in the core subjects and the progressive secondary school mean scores in the same subjects among students who were private

primary school graduates admitted at Alliance national secondary schools. To achieve this, the following hypothesis was used;-

Ho 4. KCPE examination mean scores in the core subjects have no statistically significance influence in the progressive secondary school examination mean scores in the respective core subjects among private primary schools graduates admitted at Alliance national schools.

Similarly, a simple linear regression was carried out to investigate the influence KCPE examination mean scores in core subjects might have on the progressive secondary school examination means scores in the respective core subjects among private primary graduates. Table 4.12, 4.13 and 4.14 shows the relationship coefficients of the KCPE examination mean score English, Kiswahili and Mathematics and the progressive secondary school examination mean scores in the respective subjects among this group of students.

Table 4.12: Relationship Coefficients of KCPE English Examination Means Scores and Progressive Secondary School English Examination Means score among Private Primary School Graduates.

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	16.542	8.702		1.901	.058
	KCPE English Mean Score	.535	.102	.286	5.224	.000

a. Dependent Variable: Progressive Secondary school Kiswahili examination mean score

Table 4.13: Relationship Coefficients of KCPE Kiswahili Examination Means Scores and Progressive Secondary School Kiswahili Examination Means score among Private Primary School Graduates

School Graduates.		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-5.623	9.383		-.599	.549
	KCPE Mean Score	.811	.110	.388	7.356	.000

a. Dependent Variable: Progressive Secondary school Kiswahili examination mean score.

Table 4.14: Relationship Coefficients of KCPE Mathematics Examination Means Scores and Progressive Secondary School Mathematic Examination Means score among Private Primary School Graduates.

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-5.623	9.383		-.599	.549
	KCPE Mean Score	.811	.110	.388	7.356	.000

a. Dependent Variable: Progressive Secondary school Mathematics examination mean score.

A significant regression equation was found in the three subjects. It was (F (1,306) = 27.290, p=.000) with an R^2 of .082 for English, (F (1,306) =31.208, p=.000) with an R^2 of .093 for Kiswahili and for Mathematics, (F (1,306) = 39.752, p=.000) with an R^2 of .115. The KCPE English, Kiswahili and Mathematics examination means scores were found to have a significant effect on the progressive secondary school English, Kiswahili and Mathematics examinations mean scores (t=5.234, p=.000) English, (t=5.586, p=.000) Kiswahili and (t=6.305, p=.000) Mathematics. Therefore, the null hypothesis that stated that KCPE English, Kiswahili and Mathematics examination mean scores had no statistically significance influence on progressive secondary school

English, Kiswahili and Mathematics examination mean scores was rejected because t was less than 0.05 in the three cases.

It was further observed that KCPE English examination means score explained about 8% (R^2=.082) of the total variation in the progressive secondary school English examinations mean score. Kiswahili and Mathematics KCPE examination means score explained about 9% (R^2=.093) and 12% (R^2=.115) of the total variation in the progressive secondary school Kiswahili and Mathematics examinations mean scores respectively. The remaining 92 % and 88% unexplained variation in Kiswahili and Mathematics respectively was attributed to the variations in other variables outside the model

The results of the regression test analysis revealed that KCPE examination means score for the English and Kiswahili explained less than 10% of the total variance in the progressive secondary school examination means scores in the respective subjects among both groups of students who were graduates of public and private primary schools. It was only in Mathematics that KCPE examination mean scores explain slightly above 10% of the total variation in the progressive secondary school Mathematics examination mean score. Avery large percentage of variation was therefore explained by other factors other than the KCPE examination mean score. There is a possibility that the influence of KCPE Science and Social Studies examination mean scores on secondary school examination mean score in the subjects in sciences and humanities respectively may have the same pattern. Yet, KCPE examination mean score was sorely used as a criteria for admission to national secondary schools.

The regression model therefore gives further evidence that there could have been better teaching taking place in private school compared to public ones among the sample of students. This was because in all the cases except in Mathematics, KCPE examination mean score explained a higher variation in the progressive secondary school examination mean scores. The findings further suggest a possibility that the skills required in writing KCPE examination in English, Kiswahili and Mathematics could have been different from those required in answering form one, two and three secondary school examinations in the same subjects. Further the different skills may probably not have had much in common. Since KCPE examination is comprised of mainly multiple choice question items as opposed to structured and essay question items in secondary school examinations, this may require further investigation.

The findings of this study were in agreement with a number of studies outside Kenya that have established a significant relationship between prior academic achievements and subsequent academic achievement (Rogers, Wentzel, Ndalichako,(1997); Sparks, 1999).They were also in agreement with a number of studies in Kenya that have attempted to establish the relationship between KCPE examination mean score and secondary school academic performance. A significant relationships between KCPE examination mean scores and secondary school academic achievement as measured by KCSE examination performance have been reported in a number of the studies carried out in Kenya. However, the degree of the relationship reported has varied among the studies. Najakululu (2011) in the study that involved 809 girls in national secondary school found only a moderate relationship between students' KCPE and KCSE examination mean score.

On KCPE examination mean scores predicting secondary school examination mean scores, Odima, et al. (2013) found KCPE examination mean scores explained 44% of

the variance in KCSE examination means score. This was close to Jagero (2013) who established that 31.3 % of the KCSE examinations mean score variance among students in medium cost private secondary school was explained by KCPE Examination mean scores**.** The highest variation explained by KCPE examination mean scores in this study was in Mathematics that explained only 13%, of the progressive secondary school examinations mean scores. This was way below what was explained in high stake KCSE examination done at the end of secondary school education highlighted in the two studies reviewed.

The difference could have been perhaps because the cited studies looked at the relationship between two high stake examination, KCPE examination whose result determine admission to secondary schools in Kenya and KCSE examination whose results are used as a basis of university admission. When examinations are high stake, teachers have been known to align their teaching to what is expected to be tested as well as engaging in other undesirable forms of pedagogical practices (Koretz, 2005). Such undesirable pedagogical practices include drilling and practice concentrated on test content. Important subject matter that is not given emphasis in an examination may not be taught at all. The students' scores in such examination may thus to a large extent, be influenced by how well the teacher prepare the students for the high stake examination using such undesirable practices. The examinations mean score may therefore not necessarily represent the learners' academic potential accurately. In Kenya, reservations have been raised on whether KCPE examination mean scores are true measure of learners' academic ability (Ministry of Education and Ministry of Higher Education, Science and Technology, 2012).

It is for this reason that this study opted to examine the relationship between KCPE examination mean scores in the core subjects and the progressive secondary school examination mean scores. Progressive secondary school examination mean score at various points in the secondary school education was expected to be more reliable in assessing learners' academic potential. The reason being that teachers would rarely have a reason for engaging in undesirable pedagogical practices because no major decision are based on the secondary school examination results that would have a major impact on the teachers. This was when compared to a single high stake examination whose results have a major influence on learners' future education and are used as a measure of teachers' effectiveness. As such, well set and moderated secondary school examinations are more likely to reveal the true academic potential of learners than high stake examinations. Besides, progressive evaluation has been recommended as a measure that would make the Kenyan curriculum implementation less examination oriented (Ministry of Education, 2010 & 2012).

Odima et al. (2013) study was among the few studies whose literature was available that attempted to compare KCPE examination mean scores with low – stake secondary school examination mean scores. They found a statistically significant moderate relationship of 0.6512 between KCPE examination mean score and end of form three examinations mean score. The relationships were higher than the one arrived at in this study. This could have been because Odima's et al. used data of the end of term three examination only as opposed to this study that used the end of term one examination mean scores in the first two consecutive years of secondary school education and end of term two examinations in form three. Secondary school teachers may have started aligning their teaching to KCSE examination more at the end of term three when students were moving to the examination class. The end of form three test results may

thus have been polluted by pedagogical practices meant to enhance KCSE examination mean scores. The findings related to this hypothesis therefore gives some credibility to the Kenyan Ministry of Education assertion that KCPE examination may not be an accurate measure of the candidates academic potential especially for those in this study that were admitted to the Alliance national secondary schools.

4.6 Comparison of Teachers' Perception of the Academic Performance of Students who were Graduates of Public and Private Primary Schools.

The fifth objective aimed at analyzing Alliance national secondary school teachers' perception of the academic performance of the students with a public primary school background and those with a private primary school one. To achieve this objective, the following hypothesis was formulated.

Ho5: There was no statistically significant difference in the teachers' perception of the students 'academic performance between students who are graduates of public primary schools and those who are graduates of private primary schools admitted at Alliance national secondary schools.

The hypothesis therefore presumed that the teachers in Alliance national secondary schools have a difference in the way they perceived academic performance of the students with a public and private primary school background. Table 4.15 shows the perception of teachers on the students' academic performance based on their primary school background. This is in the form of percentage number of teachers who rated the various aspects of the contrust in a scale ranging from one (very poor) to 5 (very good). These were the teachers who were teaching English, Mathematics and Kiswahili to the student cohort involved in the study.

Table 4.15: Percentage Responses of Secondary School Teacher's' Perception of Students' Academic Performance Based on Students' Primary School Background

Characteristic	Primary school background	1 very poor	2 poor	3 Average	4 Good	5 Very good
1. Enthusiasm in participating in out of class learning activities such as agriculture project and collection of field data among others	Public	0.0%	5.6%	11.1%	11.1%	72.2%
	Private	22.2%	11.1%	22.2%	16.7%	27.8%
2. Seriousness in understanding assignment given during teaching learning process	Public	5.6%	0.0%	5.6%	61.1%	27.8%
	Private	5.6%	5.6%	38.9%	11.1%	38.9%
3. Clarity and coherence of verbal expressions when answering questions in class	Public	0.0%	0.0%	27.8%	33.3%	38.9%
	Private	0.0%	0.0%	0.0%	38.9%	61.1%
4. Display of self confidence in performing assigned tasks in class such answering questions	Public	0.0%	0.0%	5.6%	27.8%	66.7%
	Private	0.0%	5.6%	5.6%	44.4%	44.4%
5. Thoroughness in completing out of class assignment given in class	Public	0.0%	0.0%	11.1%	38.9%	50.0%
	Private	0.0%	5.9%	23.5%	47.1%	23.5%
6. Volunteering to answer questions asked by teachers during the learning process	Public	0.0%	0.0%	11.1%	38.9%	50.0%
	Private	0.0%	0.0%	16.7%	44.4%	38.9%
7. Motivation to do well in school examinations	Public	5.6%	0.0%	5.6%	22.2%	66.7%
	Private	11.1%	0.0%	22.2%	38.9%	27.8%

8. Level of attentiveness during teaching learning process displayed by asking questions when something is not understood and prompt answering of questions in class when asked to do so	Public	0.0%	0.0%	11.1%	27.8%	61.1%
	Private	5.6%	11.1%	22.2%	33.3%	27.8%
9. General seriousness in carrying out academic activities	Public	0.0%	0.0%	0.0%	29.4%	70.6%
	Private	5.6%	0.0%	11.1%	27.8%	55.6%
10. Enthusiasm in carrying out non formal curriculum activities such as drama, games, debating and music	Public	5.6%	0.0%	0.0%	38.9%	55.6%
	Private	5.6%	0.0%	27.8%	33.3%	33.3%
11. Humility displayed by respect for other students, teaching and non-teaching staff	Public	0.0%	0.0%	0.0%	27.8%	72.2%
	Private	0.0%	5.6%	16.7%	50.0%	27.8%

Source: Field Data (2016)

It is apparent from the Table 4.16 that the sampled teachers had a relatively high perception of the academic performance of students who had schooled in public primary school. The highest rating was on enthusiasm in participating in out of class learning activities, humility displayed by respect for other students, teaching and non-teaching staff and general seriousness in carrying out academic activities. The first two aspects were ranked as very good by 72% of the teachers and the later by 71%. Clarity and coherence of verbal expressions when answering questions in class was the only aspect that private primary school graduates were rated higher than their counterparts who had schooled in public primary schools. Those form private primary schools were rated by 61% of the teachers as very good against 39% for those who schooled in public schools. This aspect also had the highest variation in the number of teachers who rated

both groups of students as very good (32%). This shows that the teachers were very decisive that students who had school in private primary schools were better in verbal communication than those who had schooled in public primary schools. This could have been based on their better performance in secondary English school examination where a statistically significant difference was noted as shown in hypothesis two. It could also mean that their superior performance in the written English examination was matched with their communication skills.

Perception of the private primary enthusiasm in participating in out of class learning activities was ranked poor or very poor by the largest number of teachers. About 22% of them rated this aspect among private primary school graduates as very poor against 28% who rated them as very good. Level of attentiveness during the teaching learning process was the second lowest rated aspect. 17% of the teachers rated this group of students between poor and very poor in this aspect compared to only 28% who felt they were very good. In summary. It can be concluded that in spite of the students with a private primary school background being admitted to the Alliance national secondary schools with the higher mean score compared to those with a public primary school, the teachers perceived them as disappointing in their academic performance.

Table 4.16 shows the paired t-test of the overall teachers' perception of their students' academic performance.

Table 4.16:The Paired t-test of the Overall Teachers' Perception of their Students' Academic Performance

		Paired Samples Test		
		t	df	p(2-tailed)
Pair 1	Overall teachers' perception of public and private school graduates academic performance	2.772	17	0.013

The Table confirms that the differences in teachers perception on academic performance of the public and private primary school graduates was statistically significant (t(17)=2.772, p= .013) at .05 significant level (2- tailed).Thus null hypothesis (Ho5) that stated there was no statistically significant difference in the teachers' perception of the students 'academic performance between students who are graduates of public primary schools and those who are graduates of private primary schools admitted at Alliance national secondary schools was rejected.

This means that teachers in Alliance national secondary schools who taught the core subjects generally perceived students' academic potential differently based on their primary school background. They were of the opinion that students who schooled in public primary schools would do better than those who schooled in private primary schools. They expected them to be better motivated to learn when compared to their counterparts who are graduates of private schools which would be evident in their displaying of more seriousness in their academic work. However their perception appear not to have been based on factual evidence in most cases because objective two of this study has shown that the students with a private primary school background in the same school consistently outperformed the graduates of public primary schools in the three core subjects as the students progressed through secondary school education.

The teachers' perception was therefore not in tandem with the students actual academic performance.

This finding was found unusual because according to Jussin (1991), teacher have been found to infer high expectations on the student based on previous high performance. Private primary school graduates entered Alliance national secondary schools with higher KCPE examination mean scores than the public primary school graduates as was discussed in hypothesis one. As such, it would have been expected that their teachers would have held them with higher regard than their public primary school graduates admitted with lower KCPE examination mean scores. Secondly, the teachers' perception of their students' academic performance was not in tandem with the students' academic performance. This is due to the fact that the public primary school graduates who were rated more highly did not perform better in the core subjects than their private primary school graduates. Indeed, hypothesis two of this study revealed private primary school graduates consistently performed better than their public primary school graduates in the three core subjects at all the three points of data collection. Though the margin in the academic performance between the two groups was small, the fact that the differences were consistent in the three subjects at the three points of data collection proof that it is unlikely the differences were by chance. The more positive perception of public primary school graduates by their teachers was thus not based on their previous better academic performance or better academic performance at the time of collecting the data.

The finding of the statistically significant differences in the subject teachers' perception of the students based on their primary school background prompted further analysis of the data. The further analysis investigated whether there was a difference in the perception of the Alliance secondary school teachers' characteristics by the students

who schooled in public and private primary schools. This was informed by the argument by Skinner and Belmont (1993) that the way the students relate with teachers is influenced by the way the teachers interact with the students. Fraser (1991) further points out that students have the capacity to correctly ascertain the classroom environment which may include the teachers' non-verbal communications that communicate their perception of the students' academic achievement.

The perception of the secondary school teacher's characteristics by a sample of 170 and 163 students with a public and private primary school background respectively is shown in Table 4.17

Table 4.17: Percentage Responses of National Secondary School Students' Perception of their Teachers' Characteristics Based on their Primary School Background

Teachers characteristic being rated	Category of the of students	1 Very poor	2 Poor	3 Average	4 Good	5 Very good
1. Commitment of teachers in making students understand what they are teaching	Public	2.0%	5.1%	15.2%	23.4%	54.3%
	Private	8.0%	8.0%	20.7%	25.1%	38.2%
2. Availability of teachers for consultation by students outside class hours	Public	2.4%	5.9%	5.9%	17.0%	68.8%
	Private	6.7%	7.9%	13.8%	22.8%	48.8%
3. Approachability of the teachers by the students when the students have personal problems	Public	8.4%	7.6%	16.3%	19.9%	47.8%
	Private	12.0%	10.0%	24.5%	20.5%	32.9%
4. Teachers readiness in giving individual attention to students aimed at making them excel in their studies	Public	4.4%	7.2%	9.2%	23.7%	55.4%
	Private	10.4%	5.6%	21.1%	26.7%	36.3%
5. Marking assignments given by teachers and commenting on the school performance	Public	13.6%	14.4%	22.0%	21.6%	28.4%
	Private	25.0%	15.5%	27.4%	17.5%	14.7%

6.	Equal treatment of students by teachers	Public	15.4%	7.9%	18.9%	17.7%	40.2%
		Private	20.3%	15.5%	19.9%	18.3%	25.9%
7.	Subject teacher discussion on academic performance with each individual student	Public	11.9%	9.9%	15.0%	19.0%	44.3%
		Private	13.1%	10.0%	21.1%	23.5%	32.3%
8.	Level of teachers expectation on students' academic performance	Public	3.1%	2.4%	9.1%	16.9%	68.5%
		Private	5.6%	4.4%	13.5%	19.1%	57.4%

Source: Field Data (2016)

The data shows that students' rating of their secondary school teachers was not as high as expected of the national secondary schools that were among the most popular in the country. Students who had a public primary school background had a more favourable perception of their secondary school teachers than those who had a private primary school one. It was only in four out of the eight aspects of the secondary school teachers' characteristics that were investigated that more than half of the students with a public primary school background perceived their teachers as being very good. These were availability of the teachers for consultation by students outside class hours and the teachers' level of expectation on their students' academic performance where 69% of them rated the teachers as very good. Second best rated was the teachers' readiness in giving individual attention to their students where they were rated as very good by 55% of the students. The only characteristic of the teachers among those investigated that more than half of the students with a private primary school background (57%) rated them as very good was on level of expectation on the students' academic performance. It was however below the 69% of their counterparts with a public primary school background. The characteristics of the teachers that the students had the lowest perception was on their marking and commenting on the assignments they gave. Nearly half (40.5%) of the students with a private primary school background thought their teachers were either poor or very poor in marking and commenting on the assignment they gave. Only 14.7 % of those students thought their teachers were very good in that

characteristic. This teacher characteristic was likewise rated lowest by the students who had schooled in public primary schools though not as low as by their counterparts with a private primary school background. Similar finding were reported by Korir and Kipkemboi (2014) in their study among public secondary school students in Vihiga district Kenya. The students in the study indicated that 42 % of teachers did not give assignment or extra work to students after classes and 12 % of those who gave did not mark or revise the extra work with student. This suggests that the problem may not be in the Alliance secondary schools only but in other secondary schools too. What is of certain from the data analysis is that students with a private primary school background had a lower perception of the secondary school teachers in all the aspects evaluated.

It was of concern that that both groups of students thought their teachers were not giving equal treatment to their students in the day to day interactions with them. Nearly 36% and 23% of the students with a private and public primary school background respectively rated the equal treatment of students by teachers one (very low) or two (low). Only about 26% of the students who had schooled in private primary schools thought the teachers were treating the students equally very well as compared to 40% of those with a public primary school background. One of the reasons behind the establishment of national secondary schools was to inculcate to the students the importance of living together harmoniously irrespective of the diversity in social background. This is hoped to be one of the ways achieving one of the goals of education which is assisting in promotion of national unity (Njengere, 2014). The results shows that the teachers in two schools investigated may not have been fairing very well in setting a good example to the students on fair treatment of all irrespective of the perceived differences.

When t-test was run, it was found that the differences were statistically significant as shown in Table 4.18.

Table 4.18: The Paired t-test of the Public and Private Primary School Graduates Perception of their Secondary School Teachers' Characteristics

		Paired Samples Test		
		t	df	p(2-tailed)
Pair 1	Public and private school graduates perception of their secondary school teachers' characteristics	3.215	332	0.001

Inspite of the statistically significant differences in the perception of the teachers by the students with a public and private primary school background, it was not possible to establish whether the differences were as a result of the lower teachers' perception of the students with a private primary school background. This was because statistically significant differences were established in the public and private primary school graduates' perception of their peers, teachers and classroom learning environment as well as shown in Table 4.19.

Table 4.19: The Paired t-test of the Public and Private Primary School Graduates Perception of the Characteristics of the Secondary School Learning Environment.

Secondary School learning Environment Characteristics	t-test for Equality of Means		
	t	df	p. (2-tailed)
Secondary school peers characteristics	3.045	332	.003
Teachers characteristics	3.215	332	.001
Classroom learning environment characteristics	3.116	332	.002

It is possible however that the lower teachers' perception of private primary school was based on the mistaken believe among many that private school teachers drill their learners to pass examinations at the expense of meaningful learning (Ndirangu et al,

2005). However, studies done among public and private primary schools have shown that private primary schools perform better than public primary schools due to better supervision techniques in private schools (Rono, Koros & Kosgei, 2016). In addition, Martin and Pimhidzai (2013) study showed that there was better learning taking place in private primary schools than in public ones. Therefore, the Alliance national secondary school teacher's perception of their public and private primary school graduates may have been based on false assumptions because it is not related to the students' academic performance.

4.7 Comparison of the Alliance National Secondary Schools Students' Perception of their Primary and Secondary School Environment.

The sixth objective was to find out the level of the students satisfaction with the Alliance national schools environment by comparing their perception of the Alliance national school environment with that of the previous primary schools they attended**.** To achieve this objective, the following hypothesis was formulated:

Ho6: There was no statistically significant difference between the students' perception of the learning environment of the primary school they attended and that of the Alliance national secondary schools.

The hypothesis presumed that there is no significant difference in the Alliance national secondary school students' perception of their primary and secondary school learning environment.

Table 4.20 compares the students' perception of the primary and secondary school students' characteristics among a sample of 336 students in Alliance national secondary schools.

Table 4.20: Percentage of the National Secondary School Students' Responses on their Perception of their Primary and Secondary School Peers Characteristics.

Learners characteristic	Category of school	1 Very poor	2 Poor	3 Average	4 Good	5 Very Good
1. Friendliness of your classmates	Primary	7.7%	1.8%	9.5%	24.5%	56.5%
	Secondary	8.3%	5.9%	21.7%	29.0%	35.1%
2. Commitments of classmates in assisting one another achieve their best academically	Primary	4.4%	7.9%	16.7%	26.6%	44.4%
	Secondary	8.4%	11.0%	21.5%	28.7%	30.3%
3. Motivation of students to learning	Primary	5.2%	8.2%	15.4%	20.8%	50.4%
	Secondary	5.0%	5.8%	13.9%	26.5%	48.8%
4. Commitment of the classmates in participating in group work given by teachers	Primary	12.8%	7.6%	15.8%	26.9%	36.9%
	Secondary	14.5%	17.7%	24.6%	20.8%	22.4%
5. General seriousness of the students in their academics work	Primary	4.4%	5.4%	22.5%	29.3%	38.4%
	Secondary	3.0%	4.7%	18.6%	33.6%	40.1%
6. commitment of students in completing assignment given by teachers	Primary	4.2%	5.8%	10.5%	25.2%	54.3%
	Secondary	9.2%	9.2%	20.4%	32.0%	29.2%
7. Students punctuality in attending classes	Primary	3.2%	3.8%	7.9%	21.6%	63.5%
	Secondary	4.5%	5.7%	15.6%	30.0%	44.1%

Source: Field Data (2016)

Table 4.20 revealed that the students had more positive perception of their primary school peers in the characteristics that were investigated compared to their secondary school ones. It was only in the general seriousness of the secondary school students in their academic work that more students (40%) rated their peers as very good. The seriousness of the secondary school peers is corroborated by perception on the motivation of peers where about 49% of the students felt their secondary school peers

were very motivated to learn. This was almost the same with the perception of their primary school peers on this characteristic. The lowest rating of the Alliance national secondary schools peers was on the commitment of the classmates in participating in group work given by teachers. About 32% of the students thought the students' participation in this exercise was either very poor or poor. The reliability of the assessment of this students characteristic is strengthened by the fact that commitment of secondary school peers in completing assignment given and assisting one another achieve their best were also rated second lowest. About 18% of the students perceived their secondary school peers as either poor or very poor. The implication is that learning in the Alliance secondary school was mostly an individual affair characterized by high competition among the students. This was attested by most of the class teachers in the interview who described their classes as being very competitive. One teacher insinuated that students who are perceived to lower the mean score of their class due their poor performance are censored by their peers.

Table 4.21 compares the percentage of the response on the students' perception of the secondary and primary school learning environment attended among a sample of 333 students in Alliance national secondary schools.

Table 4.21: Percentages of the Secondary School Students Responses on the Perception of their Primary and Secondary School Teachers Characteristics.

Teacher's characteristic being rated	Category of school	1 Very Poor	2 Poor	3 Average	4 Good	5 Very Good
1. Commitment of teachers in making students understand what they are teaching	Primary	2.4%	1.6%	5.1%	24.1%	66.9%
	Secondary	4.9%	6.5%	17.9%	24.3%	46.4%
2. Availability of teachers for consultation by students outside class hours	Primary	4.2%	4.3%	13.4%	22.9%	55.1%
	Secondary	4.5%	6.9%	9.9%	19.9%	58.8%
3. Approachability of the teachers by the students when the students have personal problems	Primary	7.2%	4.6%	14.2%	23.6%	50.4%
	Secondary	10.2%	8.8%	20.4%	20.2%	40.4%
4. Teachers readiness in giving individual attention to students aimed at making them excel in their studies	Primary	2.4%	3.8%	10.9%	23.3%	59.6%
	Secondary	7.4%	6.4%	15.2%	25.2%	45.8%
5. Marking assignments given by teachers and commenting on the work given	Primary	1.6%	2.8%	7.8%	20.9%	67.0%
	Secondary	19.3%	14.9%	24.7%	19.5%	21.5%
6. Equal treatment of students by teachers	Primary	5.4%	3.2%	10.8%	24.9%	55.8%
	Secondary	17.8%	11.7%	19.4%	18.0%	33.1%
7. Subject teacher discussion on academic performance with each individual student	Primary	10.0%	7.2%	12.4%	26.1%	44.4%
	Secondary	12.5%	9.9%	18.1%	21.2%	38.3%
8. Level of teachers expectation on students' academic performance	Primary	2.2%	1.0%	6.4%	19.9%	70.5%
	Secondary	4.4%	3.4%	11.3%	18.0%	63.0%

Source: Field Data (2016)

Analysis of the statistical data in Table 4.21 shows that it was only in the availability of the teachers for consultation by students outside class hours that more students rated their secondary teachers as very good (58.8 %) than their primary school ones(55.1%). Further, it was only in this teacher characteristic and the level of teachers' expectation

on students' academic performance that the number of students who rated their secondary school teachers as very good was above 50%. There is a high possibility that secondary school teachers expressed confidence in their students when they met them outside class hours. This may explain why nearly 60% of the students thought the teachers had high expectation on the students' academic performance. Besides, these were among the best KCPE candidates and as such they were expected to be highly motivated. This is confirmed by the teachers' high expectation of them as perceived by the students. In all the other characteristics, less students rated their secondary teachers as very good when compared to the way they rated their primary school teachers.

What was of concern was the large number of students who rated their secondary school teachers as either very poor or poor (34.2%) in their marking and commenting on the assignment they gave to their students. This perhaps may explains the slightly large number of students(18.4%) who were rated their peers as not committed in completing assignments given by the teachers. The students may not have been enthusiastic in completing assignments that they were unlikely to get feedback through marking done by the teachers. The secondary school teachers were also rated very poor or poor by many of their students in the way they treated them equally (29.5%) and on their discussion with the individual students on their academic performance (22.4%).

Table 4.22 compares the national secondary school students' perception of their primary and secondary school general classroom learning environment.

Table 4.22: Percentage of National Secondary School Student's Responses on their Perception of Primary and Secondary School General Learning Environment

Characteristic of the general school learning environment	Category of school	1 lowest	2 low	3 Average	4 Good	5 Very good
1. Adequacy of school textbooks for individual use by the students	Primary	8.6%	5.6%	11.8%	20.9%	53.0 %
	Secondary	13.0%	6.3%	13.2%	19.8%	47.8 %
2. Comfort in the classrooms for learning in terms of sitting arrangement and adequate space	Primary	5.5%	3.8%	9.3%	17.8%	63.6 %
	Secondary	8.7%	6.9%	17.1%	23.0%	44.4 %
3. Teachers monitoring of students' academic progress	Primary	3.4%	2.2%	8.5%	24.2%	61.6 %
	Secondary	5.5%	5.3%	16.2%	27.6%	45.4 %
4. Level of competition in academic in academic performance among students	Primary	7.1%	5.1%	17.2%	18.2%	52.5 %
	Secondary	1.4%	1.4%	5.3%	12.7%	79.2 %
5. Class size that allows individuals students interact with teachers effectively during teaching learning process	Primary	4.4%	4.4%	10.1%	22.2%	58.9 %
	Secondary	8.7%	10.3 %	18.7%	25.2%	37.1 %
6. Commitment of class teachers in ensuring problems that may hinder effective learning are timely solved	Primary	5.1%	3.4%	14.5%	26.3%	50.7 %
	Secondary	9.9%	7.3%	17.4%	23.7%	41.6 %

Source: Field Data (2016)

As for the students' perception of the general classroom learning environment, the Alliance national secondary schools students felt that the primary schools they attended were better than the Alliance national secondary schools one in almost all the aspects that were investigated in this study. The only exception was on the level of competition in academic performance among students where 91.9% of the student rated it as either high or very high. This was the only characteristic classroom learning environment that

more than 50% of the students rated it as good or very good. This observation is in tandem with students' perception of the characteristics of their secondary school peers in their commitment in participating in group work. Table 4.20 showed that 32.2 % of the students rated their peers in this characteristic as either poor or very poor. Another 18. 4% rated their peers in the same way in their commitment in assisting one another achieve their best academically. These are characteristics one would expected students to rate highly in a classroom environment where students are not competing against each other in their academic pursuit.

Class size that allows individual students to interact with their teachers effectively during the learning process was rated as either very poor or poor by 19 % of the students. Similar low rating by a large number of students was observed in adequacy of school textbooks for individual use by students (18.3%) and commitment of class teachers in ensuring problems that may hinder effective learning were timely solved. National secondary schools are meant to be centres of excellence and role models to other schools. As such, it is a serious concern when 18.3 % of the student feel there in inadequate number textbooks for their use and only 47.7 %, less than half of the students being fully satisfied in the same.

The differences in the students' perceptions of the learning environment of the primary schools they attended and that of Alliance national secondary schools environment were subjected to paired t- test and the results are shown in Table 4.23

Table 4.23: The Paired t-test of the Perception of the Primary and Secondary School Learning Environment by Students with a Public Primary School Background.

		Paired Samples Test		
		t	df	p(2-tailed)
Pair 1	Perception of the primary and secondary school learning environment by students with a public primary school background	7.550	333	.000

A statistically significant difference was arrived at (t (332) =7.550, p=.000). Therefore the Null Hypothesis that stated that there is no statistically significant difference between the student's perception of the learning environment of the primary school they attended and the Alliance national secondary school learning environment was rejected at .05 significant levels.

Being national schools that admitted the KCPE examination candidates who were among the very best, it would have been expected that the teachers would have a high expectation on their students' academic achievement. As such the students' lower perception of their secondary school teachers' characteristics that was associated with assistance of students in achieving their best academically compared to their primary school teachers was curious. This could mean that the students admitted to Alliance national secondary school did not have their expectation of the learning environment in the schools met. This is of concern because the Alliances national secondary schools are so competitive that admission to them is thought by some to be harder than joining Harvard University and compared to wining a lottery (Iraki, 2017)

The popularity of the school could therefore be based on a false believes that the school offers a school environment that is exceptionally good and not comparable to

other schools. However the differences in the perception of the primary and secondary school environment could also have been as a result of the organization structure of the primary and secondary schools. Eccles, et al. (1993) suggest that large secondary school size with large student population together with departmentalized teaching could make formation of close relationship among teachers and students difficult. Lee, Statuto and Kedar-Voivodos (1983) further point out that changing from elementary to high school results in changes in classroom environment which is not anticipated by the students. These include but are not limited to students having few opportunities of making suggestions on what they learn and how they do it. This may have an effect on the students' motivation especially during the puberty stage when the students crave for more control of their lives as shown by Nwaigue (2012). In his study that involved 1000 students in Abia state in Nigeria, Nwaigue concluded that students with high level perception of their teachers have a higher desire for success. This is because as Mathew and Prema (2017) suggest, students may develop a positive or negative self-concept depending on the concept they have of their teachers.

The findings of this study are also in tandem with the study carried out by Feldlaufer and Midgley (1988) that assessed 117 sixth grade elementary school classrooms and followed them in 138 seventh grade junior high school classrooms. Through the analysis of the students' perceptions and observation by a trained observer, they reported that the secondary school environment was less caring to students' needs as compared to the elementary one. Post transition secondary school Mathematics teachers were for instance perceived by their students as not as friendly, supportive and caring when compared to pre- transition elementary teachers. Similarly, this study despite involving students in the two most sought after secondary schools in Kenya, found that the students perceive both their primary school peers and teachers as more

caring and friendly than the secondary school ones. Primary school peers for example were perceived as more friendly and committed in assisting one another achieve their best academically when compared to secondary school peers. Primary school teachers on the other hand were perceived more positively than their secondary school counterparts in their commitment in teaching, availability for consultation outside class hours and readiness in giving individual attention to students in their academic work.

It is however the ranking of the students' perception on equal treatment of students by teachers as the lowest among the teachers characteristic assessed that is of serious concern. The Alliance national secondary school student's population comprise of students from low SES status, most of who are in those schools courtesy of scholarship programmes, and those from middle and high SES. As such the low students' perceptions that suggest their teachers were not treating them equally as expected may result in some students feeling segregated. This would impact negatively in the achievement of the first national goal of education that aim to help in promotion of nationalism, patriotism and national unity (Ministry of Education, 2012). In fact the essence of starting national schools was so that learners from all over the country learn together and in the process appreciate the national diversity and the importance of unity in diversity. Perception of unequal treatment from teachers may affect students learning as Smith, Connolly and Pryseski (2014) notes that students perception of some students "getting away'' with things while others did not can cause tension in a school. This may affect effective implementation of the curriculum.

There were only three areas that the Alliance secondary school students perceived their peers more positively than their former primary school ones. These were motivation of students to learning, general seriousness of the learners in their academics work and level of competition in academic in academic performance among students. The

perception of the secondary school environment as being more competitive than the primary school one collaborate their perception of their peers' motivation in learning and seriousness in academic work which were rated higher than that of their primary school peers. This as well could have been because the national secondary school comprised of students of above academic ability as opposed to primary schools which most likely had students of mixed ability. In summary, these finding suggest at the possibility of the students and their parents expectations on the kind of learning environment found in Alliance national secondary school environment not being fully met. Yet the schools continue being popular year after year.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This study investigated whether there was a difference in the KCPE examination group means scores in the core subjects namely English, Kiswahili and Mathematics between national secondary school students who schooled in public and private primary schools respectively. Secondly, the possible influence of the national secondary school students' primary school background on their progressive secondary school examination mean scores in the core subjects was examined. Thirdly, the possible influence of KCPE examination mean scores in the core subjects on the progressive academic performance as measured by secondary school examination mean scores in the respective score subjects was examined. This was followed by an investigation on whether there was a difference in the national secondary school teachers' perception of their students with a public and private primary school background. Lastly, the study investigated whether there were differences in the students perception of the primary school they attended and that of Alliance national secondary schools.

In this chapter, major findings of the study, which were based on the hypotheses tested, are highlighted. Conclusions made from these findings are presented and implications discussed. Lastly, recommendations for education stakeholders and for future research are outlined.

5.2 Summary of major findings

(i) There was a statistically significant difference in the groups KCPE examinations mean scores in the core subjects between the Alliance national secondary school students who had a public primary school background and those with a private primary school one. The students who schooled in private

primary schools had higher KCPE examination mean score than those who schooled in public primary schools admitted at Alliances national secondary schools

(ii) Students who had schooled in private primary schools and admitted with higher KCPE examination mean scores in English, Kiswahili and Mathematics had consistently higher mean scores in secondary school examination in the same subjects than their counterparts who schooled in public primary schools. However, a statistically significant differences was found only in English secondary school examination mean scores and not in Kiswahili and Mathematics.

(iii) There was a statistically significant influence of KCPE examination mean scores on the progressive secondary examinations mean scores in the core subjects among the groups of students who had schooled in public primary schools admitted at Alliances national secondary schools. KCPE Mathematics examination mean score explained the highest variation (about 13%) of the total variation in the students' overall three years secondary school Mathematics examinations mean score.

(iv) There was a statistically significant influence of KCPE examination mean scores on the progressive secondary examinations mean scores in the core subjects among the groups of students who had schooled in private primary schools admitted at Alliances national secondary schools. KCPE examination mean score in Mathematics explained the highest total variation (about 15%) of the total variation in the students' overall three years secondary school examinations mean score in Mathematics among this group of students.

(v) There was a statistically significant difference in the teachers' perception of the students' academic performance between students who had schooled in public primary schools and those who had schooled in private primary schools admitted at Alliance national secondary schools. The teachers were of the opinion that the public primary school graduates in Alliance national secondary school were academically better than the private primary school graduates.

(vi) There was a statistically significant difference between the students' perception of the learning environment of the primary school they attended and that of the Alliances national secondary schools. The students in Alliance national secondary schools perceived the learning environment of the primary school they attended more positively than that of the Alliance national secondary schools.

5.3 Conclusions

On the basis of the findings of this study, three conclusions are drawn. The first one is that KCPE Examination means scores which showed students who had schooled in private primary schools had higher mean scores than their counterparts from public primary schools was a fairly accurate assessment of the learners academic potential in the three subjects. This is because the learners who had schooled in private primary schools continued to perform better in secondary school examinations than those who had schooled in public primary schools. This was in spite of an attempt to close the gap in the mean scores differences by the students who had schooled in public primary schools. This means that school learning environment had some influence in the differences in KCPE examination means at the point of admission. However, since the differences in their academic performance continued to persist when the students were learning in Alliance national secondary school considered to be among the best,

learning environment may not have been the main factor contributing to the differences in KCPE examination mean scores especially in English.

The second one is that the Alliance secondary school teachers' perception of the academic performance of students who had attended public and private primary schools was not based on the students' prior academic performance at KCPE examination nor the performance in secondary school examination in English, Kiswahili and Mathematics. This was because the students who had schooled in public primary schools were more highly rated yet their performance in examinations was lower than that of those who schooled in private primary schools. Thirdly, the very high expectation KCPE examination candidates have on the learning environment at Alliance national secondary schools as evidenced by the popularity of the schools is too hyped. The evidence is that students had a higher perception of their primary school learning environment when compared with that of Alliance national secondary schools.

5.4 Implications of the Study

First, the admission of students to national schools based on their KCPE examination mean scores and on the belief that KCPE examination mean score is a predictor of future academic potential may be hinged on doubtful premises. This is evidenced from the finding of this study that consistently revealed a weak relationship between KCPE examination mean scores and the progressive secondary school academic performance in the core subjects. Secondly, the affirmative action in national secondary school admission that favours public primary school KCPE candidates on the premises that their lower KCPE examination mean scores are as a result of their disadvantaged primary school learning environment, may not be adequately justified by using KCPE examination mean scores only. This is because this study found a consistent differences in the secondary school progressive mean scores in the core subjects in favour of

students who schooled in private primary schools when compared with the counterparts who schooled in public primary schools. The differences were statistically significant in English. Thus their better academic performance during entry to the Alliance national secondary school continued as they progressed through secondary school education.

5.5 Recommendations for teachers and policy makers

The following are the recommendations for primary and secondary school teachers, policy makers in education and for further research.

1. In spite of the Kenyan government effort in improving the public primary school learning environment through provision of FPE, more need to be done to bring the public primary schools at par with most of the private primary schools. Findings from this study revealed wide disparity in the learning environment in the two sectors as reported by the students who passed through a sample of these schools. The perceived disparity in the learning environment may have had some influence on the difference in the performance of learners in public and private primary schools at KCPE examination mean scores. However, the difference in learning environment may not have sorely been responsible for the differences in KCPE examinations as students who had attended private primary schools continued to do better than those from public schools in secondary school examinations. Therefore, use of affirmative action policy in selecting those joining national secondary schools that favours KCPE candidates from public primary schools should be reviewed.
2. Further research need to be done to identify the factors that make the learners who schooled in private school continue to do better than their counterparts who

schooled in public primary schools even when learning under the same learning environment.

3. KCPE examination means scores should not be sorely used as a basis of selecting KCPE examination candidates to join the limited national secondary schools like the Alliances which are very competitive due to the conducive learning environment they offer. This is because evidence from this study shows that the relationship between KCPE examination mean scores in the core subjects and the progressive secondary school academic performance in the same subjects is very weak. Therefore, other factors other than KCPE examination performance contribute more towards the academic performance of students as they progress through the secondary school education than prior academic achievement as measured by KCPE examination.
4. Public primary school teachers should identify and adopt the different strategies the teachers in private primary schools use in their teaching. Evidence from this study revealed that KCPE examination mean scores of students who schooled in private primary schools had a stronger relationship with the students' secondary school progressive academic performance. This was when compared to their counterparts who schooled in public primary schools.
5. Secondary school teachers especially in national secondary schools like Alliance should be cautious of the perceptions of they hold of their students' academic performance based on their primary school background. Evidence from this study suggests that some of the teacher's perceptions are not in tandem with the students' prior or present academic performance.
6. The information obtained in this study on the perception of the Alliance secondary school learning environment held by the students learning in the

school should be should be made available to all primary school teachers. The information would be useful to them when guiding the KCPE candidates in their choice of secondary schools. This would make the primary school pupils get a true picture of the school learning environment so as not to have very high expectations that may not be likely to be met.

5.6 Recommendations for further research

1. Further research on students' perception of their secondary school learning environment also needs to be done in other national and county secondary schools. The studies would reveal whether the perceptions of students in those schools differ from those of students in Alliance national secondary schools.
2. The research should also be replicated in the universities. The aim should be finding out whether students' primary and secondary school background as well as examination mean scores at the two levels have any influence in academic achievement at the university.

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APPENDICES

Appendix A: Mathematics Document Analysis Form

SCHOOL NAME_____

FORM 3 STREAMS E.g. Form 3 East_____

STUDENT REG. NO.	KCPE INDEX NO.	CATEGORY OF PRIMARY SCHOOL SAT FOR KCPE	CATEGORY OF PRIMARY SCHOOL ATTENDED	KCPE MATH MEAN SCORE	END OF YEAR 1 MATH % SCORE	END OF YEAR 2 MATH % SCORE	END OF TERM 2 YEAR3 MATH

Appendix B: English Document Analysis Form
SCHOOL NAME_____

FORM 3 STREAMS E.g. Form 3 East_____

STUDENT REG. NO.	KCPE INDEX NO.	CATEGORY OF PRIMARY SCHOOL SAT FOR KCPE	CATEGORY OF PRIMARY SCHOOL ATTENDED	KCPE ENGLISH MEAN SCORE	END OF YEAR 1 ENGLISH % SCORE	END OF YEAR 2 ENGLISH % SCORE	END OF TERM 2 YEAR 3 ENGLISH

Appendix C: Kiswahili Document Analysis Form
SCHOOL NAME_____

FORM 3 STREAMS E.g. Form 3 East_____

STUDENT REG. NO.	KCPE INDEX NO.	CATEGORY OF PRIMARY SCHOOL SAT FOR KCPE	CATEGORY OF PRIMARY SCHOOL ATTENDED	KCPE KISWAHILI MEAN SCORE	END OF YEAR 1 KISWAHILI % SCORE	END OF YEAR 2 KISWAHILI % SCORE	END OFTERM 2 YEAR3 KISWAHILI

Appendix D: National Secondary Schools Student Questionnaire

The questions you are about to answer are meant to investigate some of the factors that may influence academic performance of secondary school students. The findings of the study that will highly depend on your answers to these questions will be used to advice the stakeholders in education on the necessary action to take ensure students in secondary schools maximize their academic potential. Your honesty in answering all the questions will therefore be highly appreciated.

YOUR STUDENT ADMISSION NO.

☐☐☐☐☐☐☐☐

A Some questions about you and your primary school background.

1. Name of school the secondary school you are attending_____

2. (a) Class 5 – 8 ☐ Public ☐ Private

SECTION B

Students' perception of the secondary school environment

In a scale of 1 to 5 where **1** denote **WORST/LOWEST** and **5BEST/HIGHEST**, rate both the primary school you attended most of the years between class 5-8 (**pry sch)** and the secondary school you are in currently(**sec sch**) in the following aspects.

	STUDENTS CHARACTERISTICS	**SCHOOL**	5	4	3	2	1
1.	Friendless of the classmates	**Pry. Sch**					
		Sec. Sch					
2.	Motivation of students to learn.	**Pry. Sch**					
		Sec. Sch					
3.	Commitment of the classmates in participating in group work given by teachers	**Pry. Sch**					
		Sec. Sch					
4.	General seriousness of the students in their academic work	**Pry. Sch**					
		Sec. Sch					
5.	Commitment of the students in completing assignment given by teachers	**Pry. Sch**					
		Sec. Sch					
6.	Students punctuality in attending classes.	**Pry. Sch**					
		Sec. Sch					

	TEACHERS CHARACTERISTICS	SCHOOL	5	4	3	2	1
7.	Commitment of teachers in making students understand what they are teaching	**Pry. Sch**					
		Sec. Sch					
8.	Availability of teachers for consultation by Students outside class hours.	**Pry. Sch**					
		Sec. Sch					
9.	Approachability of the teachers by students when students have personal problems	**Pry. Sch**					
		Sec. Sch					
10.	Teachers readiness in giving individual attention to students aimed at making them excel in their studies	**Pry. Sch**					
		Sec. Sch					
11.	Marking of assignment given by teachers and commenting on the students' performance.	**Pry. Sch**					
		Sec. Sch					
12.	Equal treatment of students by teachers during teaching learning process demonstrated by no favouring any students depending on their family background in giving them chance to answer questions, marking of assignments, helping students in difficult topics among others.	**Pry. Sch**					
		Sec. Sch					
13.	Subject teachers discussion on academic performance with each individual student	**Pry. Sch**					
		Sec. Sch					
14.	Level of teacher's expectation on students' academic performance .	**Pry. Sch**					
		Sec. Sch					

	CHARACTERISTICS OF SCHOOL ADMINISTRATION	**SCHOOL**	5	4	3	2	1
15.	Commitment of school administration in ensuring the students have uninterrupted study even when having challenges of raising school fees	**Pry. Sch**					
		Sec. Sch					
16.	Effectiveness of the school administration in solving problems among students such as those that relates to student's discipline, health, security	**Pry. Sch**					
		Sec. Sch					
17.	Effectiveness of communication between the school administration and the parents/guardians aimed at making individual students perform their best.	**Pry. Sch**					
		Sec. Sch					
18.	School administration communication to students on its expectation on their academic achievement	**Pry. Sch**					
		Sec. Sch					
19.	Level of the school administration cooperation with parents in improving the school learning environment	**Pry. Sch**					
		Sec. Sch					
20.	Level of students body involvement in maintaining or creating a conducive learning environment	**Pry. Sch**					
		Sec. Sch					

	SCHOOL LEARNING ENVIRONMENT	**SCHOOL**	5	4	3	2	1
21.	Adequacy of school text books for individual use by students	**Pry. Sch**					
		Sec. Sch					
22.	Comfort in the classrooms for learning in terms of sitting arrangement and adequate space	**Pry. Sch**					
		Sec. Sch					
23.	Teachers monitoring of student academic progress	**Pry. Sch**					
		Sec. Sch					
24.	Level of competition in academic Performance among students	**Pry. Sch**					
		Sec. Sch					
25.	Class size that allows individual students interact with teachers effectively during teaching learning process.	**Pry. Sch**					
		Sec. Sch					

Appendix E: National Secondary Schools Teachers Questionnaire

The questionnaire that you are kindly requested to fill seek to explore the factors that may be influencing the difference in academic performance among secondary school students in National secondary school. . Of particular interest is the effect of prior achievement at KCPE examination and category of primary school attended. Your opinion on a number of the above mentioned factors is the main focus of this questionnaire. The researcher really appreciates and thanks you in advance for the time you will take in filling this questionnaire.

SECTION A.

Teachers Demographic Data

1. In which secondary school are you currently teaching?

_____

2. For how long have you been a teacher in the current school?

a. 1- 2 years ☐
b. 3-5 year ☐
c. More than 5 years ☐

3. Which are your teaching subjects? _____.

4. Which of the following possitions do you hold in the school.

a. Class teacher ☐
b. Class Master ☐
c. Head of department ☐

SECTION B

Teachers Opinion on the Relationship between Students' Primary School Background and Academic Performance.

In a scale of 1-5 where 1 donates worst and 5 best rate the students that you can clearly identify as having studied public primary schools in the following aspects

		1	**2**	**3**	**4**	**5**
5.	Enthusiasm in participating in out of class learning activities such as Agriculture project and collection of field data among others					
6.	Seriousness in undertaking assignment given during teaching learning process.					
7.	Clarity and coherence of verbal expression when answering questions in class					
8.	Display of self confidence in performing assigned tasks in class such answering questions.					
9.	Thoroughness in completing out of class assignment given in class					
10.	Volunteering to answer question asked by teachers during teaching learning process					
11.	Motivation to do well in school examinations					
12.	Level of attentiveness during the teaching learning process displayed by asking questions when something is not understood and prompt answering of questions in class when asked to do so					
13.	General seriousness in carrying out academic activities					
14.	Enthusiasm in carrying out non formal curriculum activities such as drama, games, debating and music					
15.	Humility displayed by respect for other students, teaching and non-teaching staff.					

SECTION C.

Teachers Opinion on Relationship between Students' KCPE Examination mean scores and Secondary School Academic Performance

SD Strongly Disagree D Disagree NS Not Sure

A Agree SA Strongly Agree

		SD	D	NS	A	SA
16.	Students who had higher KCPE mean scores participate more in class than those who had lower KCPE mean scores.					
17.	I have to do more work to bring students who had lower KCPE examinations mean score at par with those who had higher KCPE mean scores					
18.	There is no difference in academic performance at Secondary school between students who joined with Low KCPE mean scores and those who joined with high KCPE mean scores					
19.	Students who had lower KCPE mean scores are more serious in their studies than those who had higher KCPE mean scores.					
20.	Students who had high KCPE examination mean score continue to have better school exams grades.					
21.	In general, students who had low KCPE Examination mean scores continue to lag behind in secondary examinations.					

Appendix F: Principals Interview Schedule

1. Name of School……

2. Name of Principal……

3. No of years as principal in current school……

4. How has the admission of students with lower KCPE examination mean score eventually affect the students' academic performance in your school?

   ……
   ……
   ……
   ……
   ……
   ……

5. How has the affirmative action policy in form one admission thatfavour students from public primary school affected the teaching learning process in your school?

   ……
   ……
   ……
   ……
   ……
   ……

6. What is your opinion on the student academic potential of the students with a primary School background when compared with those with a private primary school background?

   ……..
   ……
   ……..
   ……
   ……
   ……

7. To what extent do you think primary school background affect students self-confidence?

   ……
   ……
   ……
   ……
   ……

8. To what extent do you think primary school background, whether public or private one influence motivation of students in your school?

   ……
   ……
   ……
   ……
   .....

9. Have you noticed any difference in overall school academic performance within the last four year when compared to earlier years?

   .....
   ……
   ……
   ……

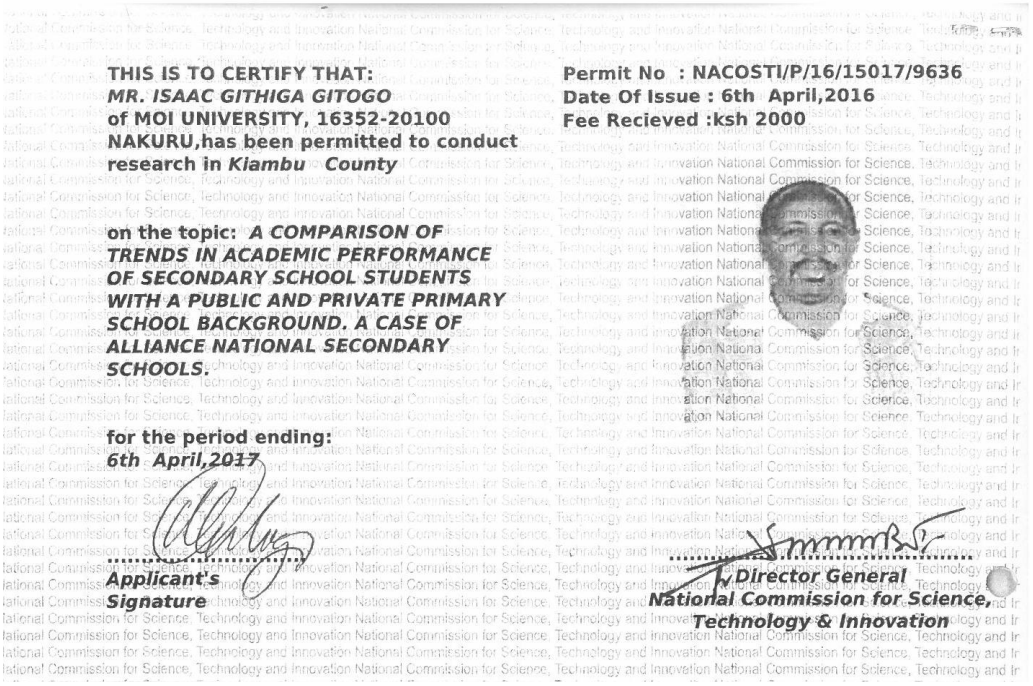
10. If the answer to question 9 is yes, what do you attribute this difference to?

    ……
    ……
    ……
    ……
    ……
    ……

11. Have you experienced instances where student who comes from public primary schools feel intimidated by their counterparts who come from private primary schools and more wealthy families and if so has it affected the student's academic performance?.....

    ……
    ……
    ……

Appendix G: Research Authorization



THIS IS TO CERTIFY THAT:
MR. ISAAC GITHIGA GITOGO
of MOI UNIVERSITY, 16352-20100
NAKURU,has been permitted to conduct
research in *Kiambu County*

on the topic: *A COMPARISON OF TRENDS IN ACADEMIC PERFORMANCE OF SECONDARY SCHOOL STUDENTS WITH A PUBLIC AND PRIVATE PRIMARY SCHOOL BACKGROUND. A CASE OF ALLIANCE NATIONAL SECONDARY SCHOOLS.*

for the period ending:
6th April,2017

Permit No : NACOSTI/P/16/15017/9636
Date Of Issue : 6th April,2016
Fee Recieved :ksh 2000

Applicant's Signature

Director General
National Commission for Science, Technology & Innovation

Appendix H: Research Authorisation; County Commissioner, Kiambu

OFFICE OF THE PRESIDENT

MINISTRY OF INTERIOR AND CO-ORDINATION OF NATIONAL GOVERNMENT
COUNTY COMMISSIONER, KIAMBU

Telephone: 066-2022709
Fax: 066-2022644
E-mail: countycommkiambu@yahoo.com
When replying please quote

County Commissioner
Kiambu County
P.O. Box 32-00900
KIAMBU

Ref.No: **ED.12/1/VOL.111/208**

31st May, 2016

Isaac Githiga Gitogo
Moi University
P. O. Box 390 - 30100
ELDORET

RE: RESEARCH AUTHORIZATION

Reference is made to National Commission for Science, Technology and Innovation letter Ref No. **NACOSTI/P/16/15017/9636** of **6th April, 2016**.

You have been authorized to conduct research on ***"A comparison of trends in academic performance of secondary school students with a public and private primary school background. A case study of Alliance National Secondary Schools in Kiambu County, Kenya".*** The data collection will be carried out in Kiambu County *for a period ending* ***6th April 2017.***

You are requested to share your findings with the County Education Office upon completion of your research.

PAULINE CHEPKWONY
FOR: COUNTY COMMISSIONER
KIAMBU COUNTY

Cc County Director of Education
KIAMBU COUNTY

National Commission for Science, Technology and Innovation
P.O. Box 30623-00100
NAIROBI

Deputy County Commissioner (***For information and record purposes***)
KIAMBU SUB-COUNTY

Appendix I: Research Authorisation; County Director of Education, Kiambu County

MINISTRY OF EDUCATION SCIENCE & TECHNOLOGY
State Department of Education

Telephone:Kiambu (office) 020-2044686
FAX NO. 020-2090948
Email:directoreducationkiambu@yahoo.com
When replying please quote
KBU/CDE/HR/4/11/ (68)

COUNTY DIRECTOR OF EDUCATION
KIAMBU COUNTY
P. O. Box 2300
KIAMBU
31st May, 2016

Mr. Isaac Githiga Gitogo
Moi University
P.O. 3900-30100
ELDORET

RE: RESEARCH AUTHORIZATION

Reference is made to the National Commission for Science, Technology and Innovation letter Ref. No. NACOSTI/P/16/15017/9636 dated 6th April, 2016.

Authority has been granted to you to do research on "***A comparison of trends in academic of secondary school students with a public and private primary school background***" for a period ending 6th April, 2017.

Please accord him the necessary assistance.

COUNTY DIRECTOR OF EDUCATION
KIAMBU COUNTY
P.O BOX 2300-00900 KBU.
TEL 020-2044686
FAX:020-2090948

PAUL K. NGUGI
For: COUNTY DIRECTOR OF EDUCATION
KIAMBU COUNTY