

**INFLUENCE OF SELECTED FACTORS ON STUDENTS' ACADEMIC  
PERFORMANCE IN SECONDARY EDUCATION IN  
KAKAMEGA COUNTY, KENYA**

**BY**

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PHILOSOPHY IN EDUCATIONAL ADMINISTRATION**

**DEPARTMENT OF EDUCATIONAL MANAGEMENT AND  
FOUNDATIONS**

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## DECLARATION

### DECLARATION BY THE CANDIDATE

This Thesis is my original work and has not been presented for a degree in any other University.

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## **DEDICATION**

This work is dedicated to my beloved mother Lucy Monyani Waseka. Mum, you are the wind beneath my wings. To my father, Michael Masayi, for speaking words of love and blessings upon my life. To my children, Samantha, Michael, Joanne and Sandra, you inspire me to greatness. To my sister and friend Mary Awino, I lack the words to say thank you. I celebrate you all.

## ABSTRACT

Studies worldwide have revealed that student, teacher, principal, school and government policy factors influence performance of students in academics. In the years 2012 and 2013 the Kakamega County posted a mean of 5.23 and 5.36 respectively which was below average despite the presence of student, teacher, principal and government policy factors for enhancing performance. Although Kakamega County performs more or less as Busia and Bungoma Counties at the means of 4.93 and 5.1 in 2012 and 5.20 and 5.4 in 2013 respectively, it had a high candidature of 20,588 compared to Busia and Bungoma whose candidature was 8,171 and 17,603 respectively. This means many candidates in Kakamega County were adversely affected. The purpose of this study was to establish the level of influence of selected factors on students' academic performance in secondary education in Kakamega County. Objectives of the study were to: establish the influence of student factors on students' academic performance in secondary education; establish the influence of teacher factors on students' academic performance in secondary education; establish the influence of principals factors on students' academic performance in secondary education; determine the influence of school factors on students' academic performance in secondary education and establish the influence of government policies on students' academic performance in secondary education in Kakamega County. Conceptual framework was based on Odumbe's (2012) concept that factors like the principal's age and experience, teachers' experience, school type and students influence student academic performance. That is, principal factors, teacher factors, student factors, school factors and government policies are likely to influence students' academic performance in secondary education. The study employed the ex-post facto and correlational research designs. The study population consisted of 324 principals, 324 deputy principals, 9,000 candidates and the County Quality Assurance and Standards Officer (CQASO). The study sample consisted of 176 principals, 30 deputy principals, 300 candidates selected through multi stage and proportionate sampling techniques and 1 CQASO selected through the saturated sampling technique. Data was collected by use of questionnaires, interview schedules, focus group discussions and document analysis guide. Validity of the instruments was determined by experts in educational administration. The reliability co-efficient of the principals' questionnaire was 0.8 at a set p-value of 0.05. Quantitative data was analyzed using frequency counts, percentages and regression analysis. Qualitative data was transcribed and analyzed in emergent themes and sub-themes. The study established that student factors that influenced students' academic performance were KCPE mark, age, exclusion from school and participation in co-curricular activities. They accounted for 75.6% of the variation in students academic performance. Teachers factors that influenced students' academic performance were; B.Ed degree teacher qualification and KCSE teacher qualification. They accounted for 59.4% of the variation in students' academic performance. Principal factors that influenced students' academic performance were experience in current and other stations and workload. They accounted for only 4% of the variation in students, academic performance. The school factors that influenced students' academic performance were libraries and laboratories. They accounted for 73.8% of the variation in students, academic performance. Government policy factors that influenced students' academic performance were; assessment at CQASOs, capacity building programmes for teachers, subject workshops, bursaries and FSE funds. They accounted for 55.4% of the variation in students' academic performance. This means that these factors improved students' academic performance differently. The study concluded that the selected factors influenced positively students' academic performance. The study recommended that the student factors that influence academic performance of KCPE mark, age and participation in co-curricular activities must be upheld; the principals' factors should be re-examined with a view to enhancing their role as managers of the school curriculum. The findings of this study are significant to stakeholders in education as they provide the way forward in improving student academic performance.

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## **ABBREVIATIONS AND ACRONYMS**

B.O.M	:	Board of Management
CQASO	:	County Quality Assurance and Standards Officer
ECA	:	Extra-Curricular Activity
EFA	:	Education for all
FSE	:	Free Secondary Education
K.C.P.E	:	Kenya Certificate of Primary Education
K.C.S.E	:	Kenya Certificate of Secondary Education
KEMI	:	Kenya Education Management Institute
KESSHA	:	Kenya Secondary Schools Heads Association
KK	:	Kakamega
LDCs	:	Low Developed Countries
OVC	:	Orphaned and Vulnerable Children
PQ	:	Principals' Questionnaire
QASO	:	Quality Assurance and Standards Officer
QSE	:	Quality Secondary Education
SES	:	Socio- Economic Status
SMT	:	Science, Mathematics and Technology
TSC	:	Teachers Service commission
UPE	:	Universal Primary Education

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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background to the Study**

This study recognized the key role played by various factors in students' academic performance and in schools. Student factors, teacher factors, principals factors, school infrastructure and government policies are all vital in achieving quality in the provision of secondary education.

The achievement of universal participation in education will be fundamentally dependent upon the quality of education available. For example, how well pupils are taught and how much they learn, can have a crucial impact on how long they stay in school and how regularly they attend. It could be judged unfortunate therefore that the quantitative aspects of education have become the main focus of attention in recent years for policy makers (EFA, 2005). The achievement of quality education requires the collective effort of various stakeholders. Effort needs to be made by students, teachers, school principals and the government in order to realize desirable quality standards in secondary education. The schools also require specific facilities and optimum conditions in order to facilitate the efforts of the teachers, students and principals. This study examined the role played by each of these factors in providing quality secondary education.

The goal of achieving Universal Primary Education (UPE) has been on the international agenda since the Universal Declaration of Human Rights affirmed in 1948 that elementary education was to be made freely and compulsorily available for all children in all nations.

This objective was restated subsequently on many occasions, by international treaties and in United Nations conference declarations. Most of the declarations and commitments however are silent about the quality of education to be provided (EFA, 2005).

According to Oniye and Alawaye (2008), the importance of examination or test taking for diagnostic placement, classification and quality control in Nigeria institutions have been greatly eroded and corrupted with increasing incidence of examination malpractice. They further assert that examination malpractice constituted one of the most debilitating problems facing the Nigerian education institutions and were constantly manifested and reported in their schools, colleges and other higher institutions. It is therefore important to prioritize and set quality teaching as a strategic objective for institutions to signal the institutions' commitment to fostering continuous improvement in teaching and learning (Henard & Roseveare, 2012).

The Basic Education Act (2013) provides for the right of every child to free and basic education. It further provides for the right of every child in a public school to equal standards of education. This study therefore recognized the importance of the students in accessing education and also attaining quality standards comparable to their peers in other districts and counties.

Newsberger (2003) established that 20 percent of high school students were in some kind of alienation from the educational system at any given time. This alienation created the kind of environment that easily prompted students to cheat to get admissions or scholarships to the



next level. This study established the various reasons that contributed to students cheating in examinations. It did not however establish how the various student factors influence students' academic performance in secondary education in Kakamega County.

In a different study done in Nigeria, Udoh (2011) established that parents not wishing their children to repeat any class colluded with principals to issue fake but favourable results to their children. Watitwa (2010) on the other hand concluded that there is a statistically significant relationship between students' motivation and achievement in Biology practical work. What was known from these studies was that parents would not hesitate to aid their students in examinations and that students' motivation was likely to boost high scores in Biology practicals. What was unknown however was how student factors were likely to influence students' academic performance in secondary education in Kakamega County. This is what the current study sought to unravel.

A teacher is expected to make every effort to expand knowledge of his own subject and to improve his teaching technique (Ministry of Education Science and Technology). He/she is also expected to impart relevant knowledge, skills, attitudes and values to the learner (The Basic Education Act, 2013). According to this study therefore the teacher was a major contributing factor to students' academic performance in secondary education in a school and by extension in the county.

A study on factors affecting students' experiences and satisfaction about teaching quality in engineering by Calvo, Markauskaite and Trigwell (2000) established that supportive teachers

and their ability to explain clearly were the most influential factors that impacted students' satisfaction. On the other hand Chevedza, Wadesango and Kurebwa (2012) researched factors that militate against the provision of quality education in Zimbabwe. They concluded that hiring of expatriate personnel in education was a noble development to help fill the deficit created by skilled teachers who have migrated to other countries. In a different study done by Sichambo (2011) in Bungoma North District it emerged that secondary school teachers, apart from the classroom teaching had other responsibilities which were causing moderate burnout and thus performance had moderately slowed down. The above studies established that teachers were the most influential factor that impacted students' satisfaction and that hiring of expatriate teachers helped alleviate the staffing problem and that overload of responsibilities impacted negatively on teachers' performance. The current study however sought to establish factors related to teachers and how they influence students' academic performance in secondary education in Kakamega County.

The school principal is responsible for the overall running of the school and for maintenance of the tone and of all-round standards. He is also expected to actualize the educational goals and objectives of the institution (Ministry of Science and Technology). It is also their duty to promote quality and relevance as well as accountability and democratic decision making within the school (The Basic Education Act, 2013). This study therefore recognized that the quality of education achieved in a school is a reflection of the leadership style of the principal.

According to Alberta Education (2012), school principals must have a deep and thorough knowledge of teaching and learning so that they are able to serve as instructional, educational and organizational leaders focused on the schools' core purpose. In a study by Chevedza et al (2012) it was established that school heads do not have ample time to conduct regular supervision duties due to high demanding administrative chores at school. Okoth (2010) on the other hand concluded that principals simultaneously engage in different leadership styles depending on prevailing situations. Autocratic leadership had the strongest influence on performance of academic work followed by democratic and laissez-faire. These studies established that principals must have a deep and thorough knowledge of teaching and learning, reduce or share administrative routines to allow time for regular supervision in schools and that they need to blend their leadership styles situationally. However what the studies did not establish is the influence of principals factors on students' academic performance in secondary education in Kakamega County, which is what this study sought to unravel.

The Basic Education Act (2013) provides for the provision of appropriate human resource, funds, equipment, infrastructure and related resources that meet the needs of every child in basic education. This is an indication of the importance of school factors such as sporting facilities, textbooks, and guidance and counseling on the quality of education achieved in schools.

According to the American School Counsellor Association (2008), effective counseling services are a crucial element in improving student achievement. The findings of a study by Jaiyeoba and Atanda (2011) on the other hand ascertained that instructional materials are

strong school based quality factors which have the tendency of contributing significantly to students' achievement in Mathematics. Wasilwa (2012) established that availability of physical facilities and how they were utilized encouraged students to perform well in the K.C.S.E examination. These studies established the role of effective counseling services in student achievement, the contribution of instructional materials to students' achievement and that physical facilities encourage students to perform well in examinations. What was unknown from these studies however was the influence of school infrastructure on students' academic performance in secondary education in Kakamega County which is what the current study sought to address.

One of the values and principles that guide the provision of basic education is the promotion of good governance, participation and inclusiveness of stakeholders in the development and management of basic education. Commitment to government policies like the Free Secondary Education (FSE) is therefore expected to have a major impact on the quality of education achieved in secondary schools.

Sufficient resources are necessary if education of acceptable quality is to be attained. Therefore, well implemented increases in resources are an important means of improving educational quality in developing countries. Thus education policies need to address the efficiency of resource use in schools (EFA, 2005). It was established by Chevedza et al (2012) that conflict in policy support and funding of mass education militated against the provision of quality education. The rapid increase in enrolment at all levels of education without commensurate increase in infrastructure and personnel has led to overstretched

facilities, overcrowding in learning institutions and high student-staff ratios all of which have had a negative effect on the quality of education (Republic of Kenya, 2008). These studies showed that education policies need to address resources use in school and that conflict in policy support and funding and the challenges brought about by the rapid increase in enrolment at all levels can militate against the provision of quality education. However what had not been shown was the influence of other government policies such as quality assessment and in-service training on students’ academic performance in secondary education in Kakamega County, which is what this study sought to unravel.

The assessment of learning outcomes includes school based assessments and formal national examinations such as K.C.S.E. Table 1.1 shows the performance of Kakamega County in K.C.S.E as compared to the neighbouring counties of Busia and Bungoma.

**Table 1.1: K.C.S.E Performance for Kakamega, Busia and Bungoma Counties (2012-2013)**

County	2012		2013	
	Number of Candidates	K.C.S.E Performance	Number of Candidates	K.C.S.E Performance
<b>Kakamega</b>	20305	5.23	20,588	5.36
<b>Busia</b>	6991	4.93	8171	5.20
<b>Bungoma</b>	17281	5.1	17,603	5.4

**Source: Kakamega, Busia and Bungoma County Examination Offices.**

It can be observed that Kakamega County performed better than Busia County in K.C.S.E in the years 2012 and 2013 and Bungoma County in the year 2012. However the county’s mean of C- indicates that most candidates would be unable to pursue competitive courses that would enable them contribute significantly to the Human Resource Development of the

county and the nation at large. Despite Kakamega having more or less the same performance as Busia and Bungoma counties, Kakamega presented a bigger candidature of 20,588 compared to Busia and Bungoma whose candidature was 8,171 and 17,603 respectively. Kakamega County's mean score therefore indicates that many candidates are adversely affected in not being able to pursue competitive courses in tertiary and middle level colleges. It is for this reason that this study sought to establish factors that may be influencing students' academic performance in secondary education in Kakamega County.

Further, compared to the national performance, Kakamega County produced fewer students eligible to pursue competitive courses at the university during the period 2012-2013 (Table 1.1)

**Table 1.2: Quality Grades Distribution for Kakamega County and National Performance (2012- 2013)**

GRADES	2012				2013			
	National (432,443 Candidates)	%	Kakamega (20305 candidates)	%	National (445,520 Candidates)	%	Kakamega (20588 Candidates)	%
<b>A</b>	1975	0.46	46	0.22	2722	0.61	60	0.29
<b>A-</b>	9235	2.14	283	1.39	9768	2.19	318	1.54
<b>B+</b>	17,730	4.50	707	3.48	17,013	3.82	656	3.19
<b>B</b>	24,913	5.76	1134	5.58	24,656	5.53	1244	6.04
<b>B-</b>	31,110	7.19	1616	7.96	30,864	6.98	1645	7.99
<b>B+</b>	38,471	8.90	1953	9.62	38,351	8.61	2024	9.83

**Source: Economic Survey and Kakamega County Examination Office.**

It can be observed from Table 1.1 that Kakamega County produced more of the grades C+, B- and B and not the quality grades of A, A- and B+. This inability of the county to produce an adequate number of candidates qualifying for competitive courses at the university

therefore raises concern over the quality, learning environment and internal efficiency of the County's Basic Education Sector. Hence the purpose of this study to investigate the influence of selected factors on students' academic performance in secondary education in Kakamega County.

## **1.2 Statement of the Problem**

The primary and secondary levels of education are in many ways the core of the education system. They serve the largest number of students, absorb the biggest share of total spending on education and serve as the bedrock for human capital development. The system's performance at these levels is therefore critically important. All stakeholders expect candidates to attain quality grades at secondary school level. This is because quality grades are fundamental in enabling the graduates of secondary schools to join tertiary institutions where they pursue competitive courses to fulfill the needs of the county and the nation at large by acquiring necessary skills such as teaching, engineering and medicine. The quality grades that enable a candidate to pursue competitive courses at the university are; A, A- and B+. In the years 2012 and 2013 only 5.09% and 5.02% respectively of the total K.C.S.E candidature in Kakamega County scored B+ and above. This raises major concerns over the quality of students' academic performance in the county.

Studies worldwide have indicated that there are certain factors that are key to provision of quality education. These include school principals, teachers, and students, factors within the school and government policies. Although these factors are operational in Kakamega County, the results are still low as evidenced by the inability of the county to produce enough

candidates joining competitive courses at the university so as to adequately contribute towards the human resource of the country. It is for this reason that this study sought to establish how these factors may be influencing students' academic performance in secondary education in Kakamega County.

Although parents play a role in the education of their children, this study will mainly focus on the quality of education as offered in schools. The parents have no direct influence on the performance of their children while they are in school as their role is restricted to payment of levies required by the schools. The study therefore did not examine parents as a major factor influencing students' academic performance in secondary education in the County.

### **1.3 Purpose of the Study**

The purpose of the study was to establish the influence of selected factors on students' academic performance in secondary education in Kakamega County.

### **1.4 Objectives of the Study**

The objectives of the study relating to Kakamega County were to:

- (i) Establish the extent to which student factors influence students' academic performance in secondary education;
- (ii) Establish the extent to which teacher factors influence students' academic performance in secondary education;
- (iii) Determine the extent to which school principal factors influence students' academic performance in secondary education;



- (iv) Establish the extent to which school factors influence students' academic performance in secondary education and
- (v) Determine the extent to which government policies factors influence students' academic performance in secondary education.

### **1.5 Research Hypotheses**

The study was guided by the following research hypotheses:

- (i) There is no significant relationship between student factors and students' academic performance in secondary education in Kakamega County;
- (ii) There is no significant relationship between teacher factors and students' academic performance in secondary education in Kakamega County;
- (iii) There is no significant relationship between principal factors and students' academic performance in secondary education in Kakamega County;
- (iv) There is no significant relationship between school factors and students' academic performance in secondary education in Kakamega County and;
- (v) There is no significant relationship between government policies factors and students' academic performance in secondary education in Kakamega County.

### **1.6 Significance of the Study**

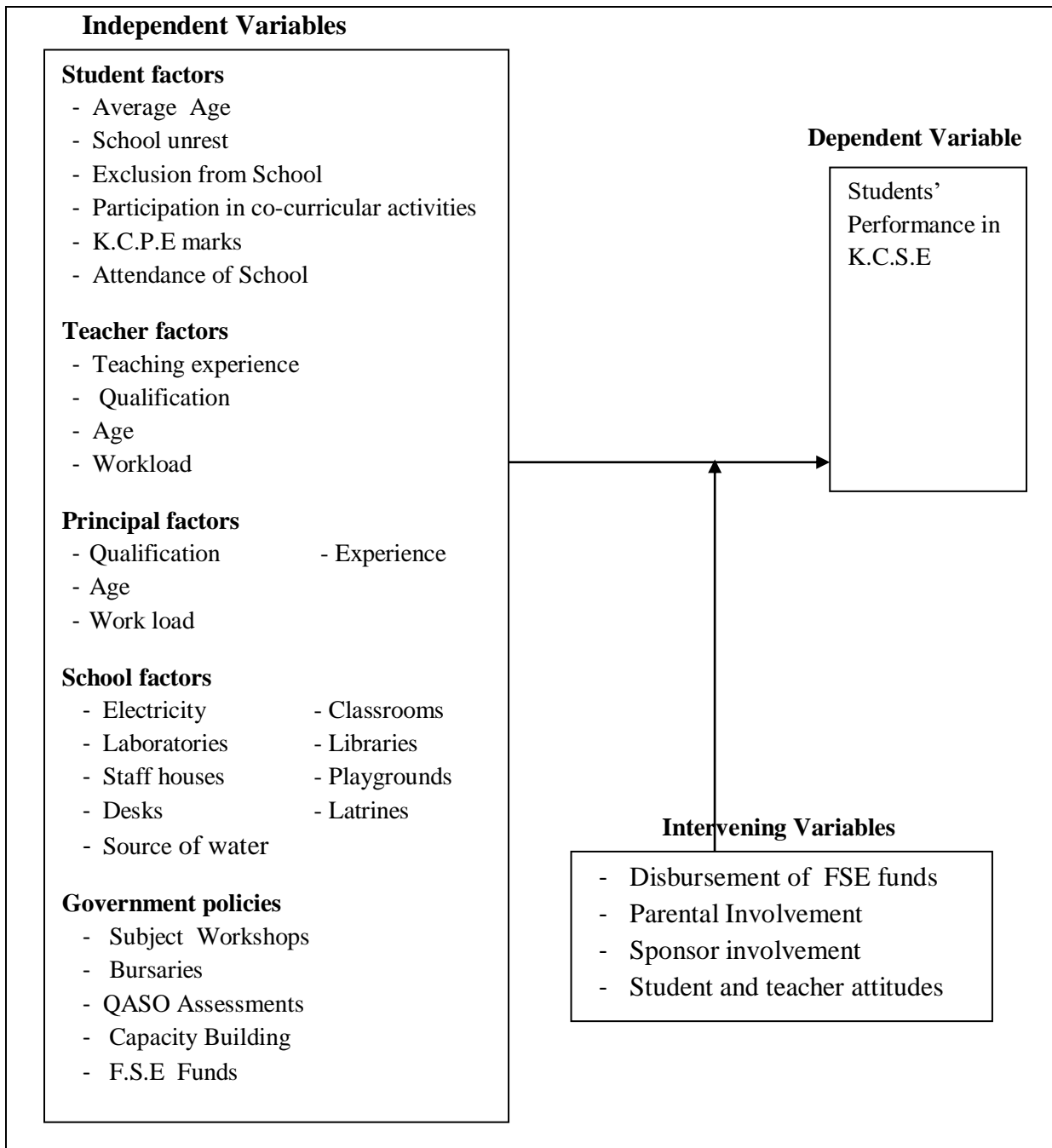
The findings of this study may:

- (i) Assist teachers add value to their students and enable them achieve quality grades.
- (ii) Encourage school principals coordinate teaching and learning activities in a way that enhances students' academic performance.

- (iii) Inspire educationists and policy makers to prioritize policies that contribute towards high academic achievement of students in secondary education.

### **1.7 Conceptual Framework**

The following conceptual framework envisions the selected factors that interplay to influence provision of quality secondary education (Figure 1).



**Figure 1.0: Factors influencing provision of quality education**

The conceptual framework postulated that various factors can influence students' performance in secondary education. Students' low K.C.P.E marks, poor study habits and indiscipline may result in low mean grades at K.C.S.E. whereas good study habits, discipline

and high K.C.P.E marks may result in high mean grades at K.C.S.E. However, the low mean grades can be avoided if students adopted a positive attitude and had their basic needs met and their school fees paid promptly by their parents. Similarly the teachers' factors that may influence the provision of quality education such as proper qualification and long teaching experience may not produce the expected results if the teachers' attitudes are negative. All independent variables therefore can influence students' academic performance in secondary education either negatively or positively depending on their nature and also considering the impact of the intervening variables upon them.

### **1.8 Scope of the Study**

- (i) The study involved all secondary schools in Kakamega County.
- (ii) The study covered the period 2012-2014.
- (iii) The study focused on the influence of principals, teachers and students factors, school factors and government factors on students' academic performance in secondary education in Kakamega County.

### **1.9 Limitation of the Study**

Two questionnaires were not fully completed. However, this did not adversely affect the validity of the data collected.

### **1.10 Assumptions of the Study**

The study was based on the following assumptions:

- (i) All students in secondary school attained the required mark of 250 marks and above.
- (ii) All teachers in secondary schools are qualified and recognize their role as curriculum implementers.
- (iii) All principals have a positive attitude towards their schools, their teachers and their students and endeavor to apply the most effective leadership style for the attainment of quality education in their schools.
- (iv) All schools have the basic infrastructural facilities like latrines, classrooms, laboratories and electricity.
- (v) The government consistently disburses the Free Secondary Education (FSE) funds on time.
- (vi) All parents of secondary school children pay all the required levies on time and provide for their children's basic needs.

### **1.11 Operational Definition of Terms**

**Entry Behavior:** Marks obtained by pupils at K.C.P.E which should determine admission into secondary school.

**Exclusion:** Preventing a student from continuing with education in a particular learning institution where he/she has been enrolled.

**Government policies:** Refer to government policies such as the disbursement of F.S.E funds and assessments by quality assurance and standards officers which may influence students' academic performance.

**Principal factors:** Are factors related to school principals which influence students' academic performance in secondary education. They include the principals' age, teaching load and experience.

**Quality Grades:** A grade of C+ and above at K.C.S.E that enables students to pursue competitive courses in tertiary institutions and at university level.

**School factors:** Are factors related to school infrastructure in this respect sports facilities, textbooks, laboratories, libraries and electricity which influence students' academic performance.

**School Unrest:** Refers to a state whereby the calm environment of a school is disturbed making it impossible for the teaching and learning activities to proceed uninterrupted.

**Selected factors:** Refer to students, teachers, school, principals and government policies factors that influence students' academic performance in secondary education. These factors have been selected because they are key in determining performance of students in secondary education.

**Student factors:** Are factors relating to students which in turn influence their performance in academics in secondary education. They include entry behavior, age, participation in co-curricular activities and absenteeism.

**Teacher factors:** These are factors such as teachers' work load, teaching experience and qualification which influence students' academic performance in secondary education.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The literature review was done under the following headings: influence of student factors on students' academic performance in secondary education, influence of teacher factors on students' academic performance in secondary education, influence of principals' factors on students' academic performance in secondary education, influence of school factors on students' academic performance in secondary education and the influence of government policies factors on students' academic performance in secondary education.

Provision of quality education that enhances students' academic performance is the process of developing relevant curricula as well as teaching and learning materials. It employs the use of appropriate physical facilities and equipment as well as an adequate number of qualified teaching staff. Provision of quality education is vital as it ensures desirable student learning outcomes and develops institutions as effective learning communities where excellent pedagogical practices are developed.

Establishing student factors is important because the knowledge, skills and attitudes learned by students are often measured in oral or written achievements and it is in this way that teacher quality and teacher effectiveness comes to be judged in the public domain. Teacher factors on the other hand are important because the delivery view of teaching measures quality of teaching from output. This therefore implies that student academic performance is determined by quality teaching. It is widely believed that a good principal is the key to a successful school. Branch, Hanushek and Rivkin (2013) established that highly effective



principals raise the achievement of a typical student in their schools whereas ineffective principals lower the achievement. It can be concluded therefore that effective principals are more likely to ensure provision of quality education. School factors include material and physical resources such as the quality of a school's physical infrastructure and school size, as well as human resources such as the proportion of teaching staff. It is important to include school factors in the study because factors that are closer to the students' actual learning process have the strongest impact on the quality of education provided (Organization for Economic Co-operation and Development, 2012).

If policy makers can identify the factors that contribute to differences in school performance, this can inform decisions about how to change school performance. Lack of funds for example has been attributed to the subsequent challenges which include inadequate resources to support use of current technology, use of outdated facilities, staff shortage and inadequate programme review. All these have a bearing on student academic performance.

## **2.2 Influence of Student Factors on Students' Academic Performance in Secondary Education.**

Learning is measured from what learners are able to do as a result of learning. When learners show a relative change in behavior as a result of learning the new behavior should be positive and beneficial to society. The knowledge, skills and attitudes learned by students are often measured in oral and written achievements (Otunga, Odero & Barasa, 2011). The quality of students' performance therefore remains a top priority for educators. It is meant for making a difference locally, regionally, nationally and globally. Educators, trainers and researchers

have long been interested in exploring variables contributing effectively to quality of performance of learners. These variables that affect students' quality of academic achievement are inside and outside of school (Farooq, Chaudry, Shafiq & Berhamu, 2011). The study by Farooq et al (2011) examined the different factors influencing the academic performance of secondary school students. The present study will on the other hand specifically examine the influence of absenteeism, indiscipline, average age, participation in co-curricular activities and students' entry behavior at K.C.P.E on students' academic performance in secondary education.

### **2.2.1 Entry Behaviour**

In investigating the effect of cognitive entry behaviors and affective entry characteristics on learning level in Turkey, Caliskan (2014) established that cognitive entry behaviors had a significant and medium level effect on learning level in a university level course. In a different study investigating students' entry qualification and academic performance in Basic Schools of Nursing in Enugu State-Nigeria, Ogbonnaya, Okpuruka, Iheanacho and Ndu(2014), a positive correlation which was statistically significant was found between entry qualifications and final performance.

While investigating the influence of selected learners' characteristics on their academic achievement in public day secondary schools in Trans-Nzoia and West Pokot Counties, Kenya, Simiyu and Akaranga (2016) found out that entry behavior (K.C.P.E mean score) significantly influenced the learners' academic achievement. They established that learners' favourable entry behavior had a positive influence on students' academic achievement. In a different study investigating the determinants of academic performance in Kenya Certificate

of Secondary Education (KCSE) in public schools in Kiambu County, Kenya, Irungu and Nyagah (2013) established that 63.8% of the sampled students had scored 201-300 marks out of 500 marks at primary school level and therefore had a poor academic background.

Similarly, Nakhanu (2009) while investigating the effect of syllabus coverage on student performance in Mathematics in Kakamega South district, Kenya, observed that students who entered form one with low K.C.P.E marks were found to be slow learners and thus delayed coverage of the syllabus. This view is in agreement with that of Hallahan and Kauffman (1982) who observed that the child with learning disabilities needs individual tutoring in one or more areas of disability. Whether or not there is a resource teacher available would determine to a great extent how much of this instruction would be assumed by the regular class teacher. Mobegi (2007) while investigating quality assurance challenges and opportunities for public secondary school headteachers in Gucha District, Kenya, identified low entry behavior as a challenge experienced by headteachers in their attempt to provide quality education. In contrast, Mwebi (2012) while investigating the expansion of private universities in Kenya and its implication on student characteristics, access factors, quality and completion rate established that the high quality of students admitted in private universities in Kenya and the high students' evaluation in various programs was a contributing factor in the expansion of private universities in Kenya.

Unlike the study by Caliskan (2014) which investigated the effect of cognitive entry behaviors on learning level in a university level course the present study sought to establish the influence of entry behavior of students at K.C.P.E on students' academic performance in

secondary education in Kakamega County. The present study also differs from that of Nakhanu (2009) which established that students with low K.C.P.E marks delayed coverage of the syllabus. The present study sought to establish the influence of students' entry behavior not just on syllabus coverage but on their academic performance in secondary education in Kakamega County. Further, the present study differs from that of Mwebi (2012) who investigated the expansion of private universities in Kenya in relation to the high quality of students. It did in contrast seek to establish the influence of students' entry behavior upon their academic performance in secondary education in Kakamega County.

### **2.2.2 Age**

While investigating the effects of age and gender on student achievement in face-to-face and online algebra classes in Texas, Amro, Kupezynski and Mundy (2015) concluded that age and gender were predictors of student achievement in face-to-face college algebra courses at a college in South Texas. A different study by Okoh (2010) obtained different results. While investigating the influence of age, financial status and gender on academic performance among undergraduates he established that gender and age are not significant predictors of academic performance. He concluded that the younger students, though concentrating on their academic work may not have the experience to effectively meet the challenges required for enhanced academic work. Hence, they zero to the same level with their older counterparts who may have the experience but do not have the time to pursue academic activities vigorously for worthwhile academic performance. Similarly, Joyanthi, Balakrishnan, Ching, Abdul Latif and Nasirudeen (2014) while investigating factors contributing to academic performance of students in a tertiary institution in Singapore established that although being

older in age may lead to better GPA scores, age does not have a significant impact on academic performance. In further agreement to this view are Ogweno, Kathuri and Obara (2014) who while investigating the influence of students' characteristics on academic performance in Agriculture in Rachuonyo North Sub-County, Kenya concluded that students' age was not a significant predictor of students' performance in Agriculture.

Voyles (2011) however, while investigating student academic success as related to student age and gender in North Georgia, U.S.A established that student age had a statistically significant impact on academic achievement for students in their first and third grade years on the Mathematics option of the assessment. Older students within the cohort scored at higher academic levels of achievement on the Mathematics assessment than did younger students. Similarly, Ogundokun and Adeyemo (2010) while examining the moderating influence of emotional intelligence, age and academic motivation on academic achievement of secondary school students in Nigeria concluded that emotional intelligence, age and academic motivation were potent predictors mildly associated to academic achievement and that a significant moderate positive relationship existed between age and achievement. The study found age to be a significant factor in learning as in most cases age is an index of maturity and maturity aids learning. Consequently a significant moderate positive relationship existed between age and achievement.

In contrast Jabor, Kungu, Machtmes, Buntat and Nordin (2011) in a study to determine if age and gender influence the achievement in high school Mathematics in the U.S.A revealed that there were statistically significant differences in Mathematics GPA scores between age

groups and gender. Below 19 age group students had higher GPA scores in Mathematics than the scores of 19 and above age group students.

A study that yielded similar results was that by Chowa, Masa, Ramos and Ansong (2010) which was carried out to establish how student and school characteristics influence youth academic performance in Ghana. The findings indicated that younger students have higher English scores than older students. Similarly, Olufemi, Temilade and Olatoun (2015) explored the effect of school and student variables on secondary school Chemistry in Nigeria. The study concluded that students of the lowest age category (12-14 years) showed the highest self-concept in academic and social self-concepts. Additionally, Momanyi, Too and Simiyu (2015) explored the effect of students' age on academic motivation and academic performance among high school students in Kenya. From the findings age had a significant effect on the students' academic performance. The youngest students had higher scores in academic performance than the oldest students.

Whereas the study by Amro et al (2015) investigated the effects of age and gender on student achievement in face-to-face and online algebra classes in Texas the present study investigated the influence of age on students' academic performance in secondary education in Kakamega County, Kenya. The present study also differed from that of Okoh (2010) who investigated the influence of age, financial status and gender on academic performance among undergraduates and that of Joyanthi et al (2014) who investigated factors contributing to academic performance of students in a tertiary institution in Singapore. The present study further contrasts with that of Jabor et al (2011) who determined the influence of age and gender on achievement in high school Mathematics in the U.S.A and that of Ogundokun and

Adeyamo (2010) who examined the moderating influence of emotional intelligence, age and academic achievement for students in their first and third grade years on the Mathematics option of the assessment.

### **2.2.3 Participation in Co-curricular Activities**

A study to establish the association between school-based physical activity including physical education and academic performance by the Centre for Disease Control and Prevention (2010) concluded that participating in physical activity was positively related to academic outcomes including academic achievement, academic behaviours and indicators of cognitive skills and attitudes such as concentration, memory, self-esteem and verbal skills. In a different study done in Kansas State, America, Hart (2013) examined the impact of participation in high school activities, the amount and type of activities participated in( extracurricular or co-curricular), and gender on Hispanic students' GPA and graduation status. The findings of the study established that students who participated in activities had higher GPAs, and the likelihood of graduating from high school for both males and females increased. Similarly, in a study to find out the impact of co-curricular activities on personality development of secondary school students, Mahmood, Hussain, Khalid and Azam(2012) established that co-curricular activities play a significant role in personality development of secondary school students and provide a chance to students for utilizing their potential. The non-participator group had not showed these qualities at wide range. Their mean scores, correlation coefficients and mean difference values were comparatively low.

These findings are similar to those of Daniyal, Nawaz, Hassan and Mubeen (2012) who sought to establish that co-curricular activities in which university students participate have a positive effect on their academic achievements. The study established a strong association

between the involvement in co-curricular activities and the academic performance of students. Participation in co-curricular activities improved the academic performance of students whereas athletic and sports participation improved performance of students in their studies. In a different study investigating factors contributing to academic performance of students in tertiary institutions in Singapore, Joyanthi et al (2014) established that students' involvement in Extracurricular Activities (ECA) led to an improvement in GPA scores.

Unlike the study by Daniyal et al(2012) which only used the questionnaire and the Chi-square test the present study used the interview schedule and document analysis in addition to the questionnaire, whereas the data was analyzed using regression analysis. It further differs from that of Hart (2013) which used one-and-two-factor ANOVAS, the Chi-square and log linear analyses.

#### **2.2.4 Absenteeism/Exclusion**

Jones (2006) while investigating the impact of student attendance, socio-economic status and mobility on student achievement of third grade students in two Title1 schools in a South-Eastern Virginia School District established that for the variable of attendance, student achievement was only significant in the area of Mathematics. However, English achievement was not found to be related to attendance. In contrast, a study by Mohamed and Haque (2012) that sought to assess the relationship between absenteeism and student grade performance established that consistent class attendance is a key factor in the academic success of students and that class absenteeism negatively impacts upon students' ultimate course results.



Olson (2014) in a different study on improving student attendance in Baltimore, U.S.A recommended that schools need to pay attention to student attendance from the earliest days in September, and intervene to get students back on track quickly. Similarly Aurora and Teixeira (2013) in a study on the impact of class absenteeism on undergraduates' academic performance in an Economics School in Portugal found a positive and significant relation between attendance and academic performance, with the effect being larger in high absenteeism contexts. In agreement is a study by Aden, Yahye and Dahir (2013) who investigated the effect of students' attendance on academic performance at Simad University, Mogadishu. The findings indicated that a strong positive relationship existed between students' attendance and academic performance.

Similar findings were elicited in a study by Ogweno, Kathuri and Obara (2014) which investigated the influence of students' characteristics on academic performance in Agriculture in Rachuonyo North Sub-County, Kenya. They observed that class attendance influences students' performance in Agriculture and that students who regularly attended class performed better than those who missed class. Similarly, Kariba (2015) while investigating the influence of student absenteeism on academic performance of secondary school students in Nyandarua, Kenya established that student absenteeism influenced academic performance and that the level of student absenteeism mattered in academic performance.

Absenteeism of students was further established by Nakhanu (2009) as a factor that affects syllabus coverage whereas Mobegi (2007) concluded that student absenteeism contributed to low performance. These findings agree with those of Odumbe (2012) who established that

absenteeism of students and low family income had a negative influence on performance as the latter affected regular pupil attendance in school influencing the payment of fees. Long absence from school due to various reasons on the other hand was found to be a factor that prompted school authorities' decision to force some students to repeat a given grade (Bucheche, 2011).

Unlike the study by Jones (2006) which investigated the impact of student attendance, socio-economic status and mobility on student achievement of third grade students in two Title 1 schools in a South-Eastern Virginia School District the present study sought to establish the influence of student absenteeism and exclusion from school upon students' academic performance in secondary education in Kakamega County, Kenya. The present study further differs from that of Aurora and Teixeira (2013) who sought to establish the impact of class absenteeism on undergraduates' academic performance in an Economics School in Portugal and that of Ogwen et al (2014) who only sought to establish the influence of students' characteristics on academic performance in Agriculture in Rachuonyo North Sub-County, Kenya.

### **2.2.5 School Unrest**

While investigating students' unrest in institutions of higher learning and its implications on the academic performance of students in Akwa Ibom State, Nigeria, Davies, Ekwere and Uyanga (2015) established that determinant factors that influence students' unrest in institutions of higher learning are often attributed to breaking of rules and regulations by the students, lack of social amenities on campus and students' involvement in cultism. They further established that students' unrests on campus affect their academic performance which

include disruptions of academic programmes and causes them to spend longer time with less zeal to pursue their programmes, inability of the lecturers to cover the syllabus and brain drain.

In a different study, Ngwokabuenui (2015) while examining the familiar or common forms, the causes and probable ways to curb indiscipline in secondary schools in Cameroon, it was established that the familiar and common types of indiscipline such as disobedience to teachers and school prefects included collective misconduct of students and unacceptable habits. These findings are similar to those of Mobegi (2007) who identified student indiscipline as a challenge experienced by headteachers in their attempt to provide quality education. The headteachers also reported that indiscipline cases contributed to low performance. Similar findings were established by Bucheche (2011) who identified indiscipline as a factor leading to repetition caused by persistent poor academic performance. Karanja and Bowen (2012) on the other hand, while investigating the impact of students' unrest on academic performance in public secondary schools in Kenya, confirmed a negative relationship between students' unrests and academic performance.

Whereas the above studies only employed the survey research design, the present study employed both descriptive statistics and inferential statistics to establish the influence of school unrest on students' academic achievement in secondary education in Kakamega County.

## **2.3 Influence of Teacher Factors on Students' Academic Performance in Secondary Education**

Teacher leadership is a resource for changing schools. Using the knowledge, skills and talents of every teacher as a leader provides unlimited resources for positive outcomes. Teacher leaders' effectiveness depends not only on their own commitment to be leaders but also on the ability of their school's principal to skillfully support them and encourage a culture that allows teacher leadership to exist (Ackerman, Moller & Katzenmeyer, 1996). The delivery view of teaching measures quality of teaching from output. The quality of teaching is often defined in terms of what happens to students after a learning experience. Quality teaching should aim at quality learning. It is what learners are able to do after being taught that provides a valid measure of the quality of teaching.

### **2.3.1 Teachers' Workload**

A study by Ingvarson, Kleinhenz, Beavis, Barwick, Carthy and Wilkinson (2005) on secondary teacher workload identified moderate to severe workload problems among teachers in New Zealand. Akello (2015) on the other hand while examining the impact of teacher characteristics on students' academic achievement in Kisumu Central Sub-County, Kenya established that the school with the highest number of teachers recorded the highest mean score. This was attributed to the reduced workload.

Sichambo (2011) recommended that teachers' workload be reduced by employing more personnel. He advanced that secondary school teachers, apart from the classroom teaching, had other responsibilities and a number of remedial lessons, large classes to handle, a lot of paper work which were causing moderate burnout thus performance had moderately slowed

down. He further recommended that secondary schools need to find ways of completing the syllabus to avoid remedial lessons which increase teachers' workload. Ways to reduce burnout such as reducing the holidays and weekend remedial lessons, regular transfers and time for relaxation were recommended. This view agrees with that of Calvo et al (2000) who established that reducing class size and providing more opportunities for teachers' professional development may improve students' learning experience.

A critical shortage of teaching staff can be a stumbling block towards the provision of quality education. This can be overcome by hiring expatriate personnel in education as seen in the case of Zimbabwe where skilled teachers have migrated to South Africa, Botswana and other Western countries seeking greener pastures. Mayeku (2009) on the other hand established that inadequate staffing leads to heavy burdening of the staff and this has a great impact on the quality of the services they offer as a result affecting the quality of the programmes. Similarly, Watitwa (2010) advanced that more teachers should be employed to reduce the workload to allow teachers ample time to prepare practical lessons. In addition, teacher shortage was identified by Mobegi (2007) as one of the challenges experienced by head teachers in their attempt to provide quality education whereas Odumbe (2012) concluded that low teacher-pupil ratio was one of the factors that enhanced performance in day secondary schools. Rosner (1985) also established that the hard-to-teach child needs explicit, unambiguous instruction that is offered in limited portions and accompanied by more than the usual amount of drill and practice.

Unlike the study by Ingvarson et al (2005) which consisted of case study and survey components employing survey forms and field work as instruments of data collection the present study was a co-relational study that sought to establish the influence of teachers' teaching load upon students' academic performance in secondary education in Kakamega County, Kenya.

### **2.3.2 Teachers' Experience**

While investigating the effect of teacher experience and teacher degree levels on student achievement in Mathematics and Communication Arts in a mid-size urban school district in North West Missouri, Dial (2008) established that years of experience had an effect on student achievement in both communication Arts and Mathematics. In addition, the percentage of students scoring advanced and proficient in the communication Arts and Mathematics sections increased as the number of years of teaching experience increased for elementary teachers. Similarly, a study by Adeyemi (2008) that investigated teachers' teaching experience and students' learning outcomes in the secondary schools in Ondo State, Nigeria established that teachers' teaching experience was significant with students' learning outcomes as measured by their performance in the SSC examinations.

In further agreement is the study by Ibe et al (2016) which examined the influence of teachers' characteristics on academic achievement of secondary school Biology students. The study established that teachers' teaching experience influenced students' achievement in Biology. Similarly, Ewetan and Ewetan (2015) in a study investigating teachers' teaching experience and academic performance in Mathematics and English language in public secondary schools in Ogun State, Nigeria concluded that teachers' years of experience

significantly influenced students' academic performance. Schools having more teachers with above 10 years teaching experience achieved better results than schools having more teachers with 10 years and below teaching experience.

Similar findings were elicited in a study by Kosgei et al (2013) which sought to establish the relationship between teacher characteristics and students' academic achievement. The study concluded that teacher experience has a significant effect on pupil performance in primary schools and at upper secondary level. This is because experienced teachers have a richer background of experience to draw from and can contribute insight and ideas to the course of teaching and learning. Additionally, students taught by more experienced teachers achieve at a higher level because their teachers have mastered the content and acquired classroom management skills to deal with different types of classroom problems.

High teacher experience was cited by Odumbe (2012) as one of the factors that enhance performance in day secondary schools. Ong'ele (2007) also established that teachers with more teaching experience performed better in actual classroom teaching than those with less teaching experience. This can be explained by the fact that experienced teachers have a mastery of subject areas and its scope, are well versed in examination techniques, take keen interest in revision and examination techniques (Omariba, 2003). Rosner (1985) observed that teacher experience varied among teachers and had an effect on what happens in the classroom when a teacher interacts with her students. It is therefore one characteristic to consider when teaching assignments are determined. Bruce, Hersh and Mckibbin (1983) however are of different opinion, stating that however experienced the teachers, without a high quality of effort other factors alone make little difference.

Teacher professional development has high influence on student motivation, teaching methodologies, communication skills, organization of content and planning of lessons and very high influence on students' participation during lessons, teacher confidence and knowledge of subject matter (Maende, 2012). Mwebi (2012) recommended that most teaching staff who have less than a PHD degree should upgrade their qualifications. He established that most of the teaching staff in private universities had Masters qualification. Quality of education therefore was bound to suffer a great set back due to the lecturers' inability to deliver the good substance.

Whereas the study by Adeyemi (2008) only used the principals as respondents, the present study in addition to principals used the deputy principals and the CQASO as respondents in order to enhance the findings. The present study further differed from that of Ibe et al(2016) which sought to establish the influence of teachers' characteristics on academic achievement of secondary school Biology students as it sought to establish the influence of teachers' teaching experience not just upon performance of students in Biology but in K.C.S.E as a whole.

### **2.3.3 Teacher Qualification**

The most important factor affecting the quality of education is the quality of the individual teacher in the classroom. There is clear evidence that a teacher's ability and effectiveness are the most influential determinants of student achievement. Regardless of the resources that are provided, rules that are adopted and curriculum that is revised the primary source of learning for students remains the classroom teacher. More critically, the importance of good teaching



to the academic success of students is intuitively obvious to any parent (Council for Education Policy, Research and Improvement, 2003).

In a study to examine whether years of teaching experience have an effect on overall achievement of students on the communication arts and Mathematics sections of the Missouri Assessment Program, Dial (2008) established that teacher degree alone had no effect on students' achievement. The study further revealed that elementary teachers with masters' degree and above had a larger percentage of students score advanced and proficient on both the communication arts and Mathematics sections than did the elementary teachers with bachelor's degree. In a different study to examine the influence of teachers' characteristics on academic achievement of secondary school Biology students in Nigeria, Ibe et al(2016) concluded that educational qualifications of teachers have a significant influence on the classroom performance of the students.

Abe (2014) in a study to establish the effect of teachers' qualifications on students' performance in Mathematics in Nigeria established that professional qualification of teachers is the major variable affecting students' performance in Mathematics among the junior secondary school in Ikere Local Government Area of Ekiti State, Nigeria. He further established that a significant difference existed in the performances of students taught by professional teachers and non-professional teachers and that only qualified Mathematics teachers should be allowed to teach Mathematics at secondary level. In contrast, Musau and Abere (2015) in a study that examined the extent to which teacher qualification influenced students' academic performance in Science, Mathematics and Technology (SMT) subjects in Kenya established that there was no significant difference in means between teacher qualification and students' performance in SMT subjects at form four level.

Similarly, Kosgei, Mise, Odera and Ayugi (2013) in a study to establish the relationship between teacher characteristics and students' academic achievement found no significant relationship between teacher qualification and student academic achievement. In further agreement are the findings of a study by Akello (2015) which sought to establish the contributions of teacher characteristics on academic achievement of the 2010 public day secondary school cohort in Kisumu Central Sub-County, Kenya. The study established that teacher qualification does not play a pivotal role in determining student academic achievement.

Staff development plays a critical role in higher education. Calvo et al (2000) established that supportive teachers and their ability to explain clearly were the most influential factors that impacted students' satisfaction. Furthermore, whether parents send their children to school at all is likely to depend on judgments they make about the quality of teaching and learning provided-upon whether attending school is worth the time and cost for their children and themselves (EFA, 2005). However Fatai (2005) counters that only teachers who are qualified, certificated, competent and of good moral standing need to be employed to teach the students. They should be dedicated teachers who would serve as role models in matters of punctuality, self-discipline, accountability, integrity and sound leadership styles. Effective schools have teachers who have a strong sense of efficacy. A sense of efficacy combined with high expectations for one's students communicates powerfully to students that they can learn and that they will learn (Bruce et al, 1983). The knowledgeable teacher is one who knows what to teach and has some idea about how to do it. She knows that once a child learns a basic fact this can be incorporated into a future lesson for teaching some subsequent

fact. The knowledgeable teacher is constantly looking for better, more effective methods. She uses the new procedure and assesses its effects (Rosner, 1985). Teachers' subject-matter knowledge, teaching skills, dedication to teaching and openness to new ideas all can play a significant role in determining the success of a new curriculum (Posner, 1992).

Unlike the study by Dial (2008) which used descriptive statistics and factorial ANOVA the present study employed the use of inferential statistics in order to establish the influence of teachers' qualification upon students' academic performance in secondary education as a whole and not just in Mathematics and the communication arts. It further differs from that of Akello (2015) which only employed the use of descriptive statistics and that of Ibe et al(2016) which only used the observational schedule as the instrument of data collection. The present study employed the use of questionnaires, interview schedules and document analysis guide to enhance data collection.

#### **2.3.4 Teachers' Age**

In a study to examine the influence of teachers' age, marital status and gender on students' academic achievement in Nigeria, Alufohai and Ibhafidon (2015) concluded that students' academic achievement is significantly influenced by teachers' age. They established that as teachers age, they become cynical and develop a psychological condition of exhaustion, cynicism and inefficiency which in most cases is due to poor remuneration after many years of service.

In a different study to examine the correlates between age and gender on academic achievement of Mathematics and Science students Abubakar and Oguguo (2011) established

age as a predictor of academic performance of Mathematics and Science students. Akello (2015) in a study that sought to establish the contributions of teacher characteristics to academic achievement of students in Kisumu Central Sub-County, Kenya showed a significant relationship between teachers' age and academic achievement. The lower the age of teachers the greater the agility and efficiency with which they were found to perform their duties.

Unlike the study by Akello (2015) which only employed the use of descriptive statistics the present study additionally used inferential statistics to establish the influence of teachers' age on students' academic performance in secondary education. The present study further differs from that of Alufohai and Ibhafidon (2015) which employed the use of one-way ANOVA and the t-test. The study also investigated the influence of teachers' age on the academic achievement of secondary school students in English language as a subject whereas the present study sought to establish the influence of teachers' age upon the academic performance of students in secondary education as a whole.

#### **2.4 Influence of Principals on Students' Academic Performance in Secondary Education**

The contributions of principals in fostering commitment, collaboration and cooperation among community members are key factors in achieving excellence in education. In recent years, the duties and expectations of the principal have expanded and become increasingly complex. The role of the school principal has evolved over the past half-century. As schools became larger, the traditional role of the school principal as head or principal teacher responsible for teaching and learning within a school was expanded with the addition of

greater administrative responsibilities. The principal's role has become more focused on the management of teaching and learning within the school, consistent with local school boards and provincial policies and directions. Consequently, school principals must have a deep and thorough knowledge of teaching and learning so that they are able to serve as instructional educational and organizational leaders focused on the school's core purpose (Alberta Education, 2012).

Successful leadership can play a highly significant and frequently underestimated-role in improving student learning (The Wallace Foundation, 2012). It is widely believed that a good principal is the key to a successful school. Results indicate that highly effective principals raise the achievement of a typical student in their schools by between two and seven months of learning in a single school year; ineffective principals lower achievement by the same amount (Branch, Hanushek & Rivkin, 2013). Administrative decisions pre-empt the choices that can be made at lower levels teachers' choices are constrained by the many decisions already made at other levels. A headteachers' decisions about the allocation of time, pupils or resources set the conditions within which teachers make their decisions about teaching (Barnes, 1985).

#### **2.4.1 Principals' Qualification**

In a study focusing on principals and school performance Clark, Martorell and Rockoff(2009) sought to estimate how the characteristics of school principals relate to school performance as measured by students' standardized exam scores and other outcomes. The study found little evidence of any relationship between school performance and the principals' education. These findings differ from those of Dhuey and Smith (2013) who

investigated how school principals influence student learning. They established that if the principal holds an advanced degree they are likely to have a positive effect.

In a different study, Nzoka and Orodho (2014) sought to analyze the strategies school managers apply to improve academic performance of students in school under free day secondary school education in Embu District, Kenya. The study concluded that there was need for the inculcation of leadership skills through intensive skill training through Kenya Education Management Institute (KEMI).

In a study on the influence of school and teaching quality in children's progress in primary schools Sammons, Sylva, Melhuish, Blatchford, Taggart and Barreau (2008) established that teaching quality has an important influence on children's progress in Reading between year 1 and year 5. In addition the study established that progress in Mathematics is relatively equally influenced by quality of school leadership. In a different study investigating school effectiveness and school improvement Hallinger and Heck (1998) explored the relationship between principal leadership and student achievement. The results of the study supported the belief that principals exercise a measurable, though indirect effect on school effectiveness and student achievement. The study further established that by virtue of their qualification principals contribute to school effectiveness and improvement.

While investigating how leadership influences student learning, Leithwood, Anderson, Louis and Wahlstrom (2004) established that effective education leadership makes a difference in improving learning. The results of the study further indicated that improving leadership is key to the successful implementation of large-scale reforms. In a related study on the

importance of principal leadership, The National Association of Secondary School Principals (2013) demonstrated that investments in good principals are a particularly cost-effective way to improve teaching and learning. They further established that effective administrative leadership provides a stable, predictable and supportive foundation for a high-performing school. Further, they established that school leaders improve teaching and learning indirectly and most powerfully through their influence on staff-motivation, commitment and working conditions.

The study by Sammons et al (2008) employed a study sub-sample of 1160 children aged between 6 and 10 in primary schools in England whereas the present study will sample form four students, principals and deputy principals from secondary schools in Kakamega County. The present study also differed from that of Dhuey and Smith (2013) who measured the effect of principals on gains in Math and reading test scores in grades three through 8 in North Carolina Schools. The present study sought to establish the influence of principals' qualification on students' academic performance in secondary education in Kakamega County.

#### **2.4.2 Principals' Age and Experience**

While investigating how school principals influence student learning, Dhuey and Smith (2013) established that experience as a principal plays a small role in principals being able to improve student gains. Further, the study showed that principals have a large impact on both Math and Reading scores. The study also established that shifting principals between schools has the potential to significantly reduce achievement gaps. The study further established that new principals who lack experience have a detrimental effect on students' outcomes, and that

a principal's experience plays a role in improving student scores. In a similar study investigating school principals and school performance Clark, Martorell and Rockoff (2009) showed that a positive relationship existed between principal experience and school performance. The results further established that policies which cause principals to leave their posts early will be costly, and the tendency for less-advantaged schools to be run by less experienced principals could exacerbate educational inequality.

A different study by Dhuey and Smith (2010) that investigated the effect of individual principals on gains in Math and reading achievement however had different findings. The study concluded that principal experience does not exert a significant influence on student performance.

Wakarindi (2013) in a study investigating influence of principals' administrative strategies on students' Kenya Certificate of Secondary Education Performance in Mathiyo District, Kenya established that principals' strategies on facilitation of teachers' development, creation of enabling environment, ensuring adequate staffing levels, can be effective in improving academic achievement. Further, principals' strategy on provision of teaching learning resources influenced students' performance in K.C.S.E.

The study by Dhuey and Smith (2013) employed the use of t-test and descriptive statistics whereas the study by Wakarindi (2013) used the descriptive survey. The present study will on the other hand use the correlational research design and the ex-post facto design. While the studies by Clark et al (2009) and Wakarindi (2013) purposed to establish how the characteristics of school principals relate to school performance and how headteachers' administrative strategies influence students' academic performance the current study



purposed to investigate the influence of principals as well as the influence of teachers, students, school factors and government policies on students' academic performance in secondary education in Kakamega County. This is the gap the current study sought to fill.

### **2.4.3 Principals' Workload**

National Association of Elementary School Principals (NAESP) (2013) established that principals devoting significant time and energy to becoming instructional leaders in their schools voluntarily left their principalships after serving from 2 to more than 10 years due to a workload that sometimes seems simply not doable. A different study by Ingvarson et al(2005) that investigated secondary teacher workload, it was established that factors that affect workload are largely common to all schools and that principals and managers recognized the need to be accountable but felt that the amount of paperwork connected with present processes was excessive. The research further identified moderate to severe workload problems among teachers and managers in New Zealand secondary schools.

The study by Ingvarson et al (2005) simply investigated secondary teacher workload. The present study however sought to establish the influence of principals' teaching load upon students' academic performance in secondary education in their respective schools.

## **2.5 Influence of School Factors on Students' Academic Performance in Secondary Education**

The sharp rise in enrolment at schools which results in shortage of resources like textbooks, equipment, furniture, classrooms and supportive materials effects the provision of quality education. This situation of scarcity of resources, lack of motivation, teacher-pupil ratio, lack

of supervision in service delivery, deteriorating infrastructural facilities in schools and the migration of skilled personnel further leads to poor service delivery in schools (Chevedza et al, 2012). Quality and not just quantity of effort, materials and time is what counts (Bruce et al, 1983).

### **2.5.1 Physical Facilities**

In a study that explored factors affecting students' academic performance in Pakistan, Mushtaq and Khan (2012) established a degree of association between learning facilities and student performance. A different study by Osaikhiuwu (2014) that investigated institutional factors which affect the performance of Public Administration students in a Nigerian university established that institutional variables considered such as unfavourable learning conditions, interrupted water supply and poorly equipped libraries did not have any significant impact on students' performance. However, interruption of electricity supply, overcrowded lecture rooms and unfavourable learning environment were found to affect students' performance more than the others.

Akin and Folorunso (2014) while investigating the correlation between self-concept and academic performance in Chemistry among secondary school students in Ile-Ife, Nigeria, established that school environment and facilities may enhance one's confidence in ability to do well in any academic task especially science subjects that depend so much on laboratory works. Where these facilities are available, students might be optimistic and feel secured in anticipation that success is possible. Similar findings were elicited in a study by Nakhumicha (2013) which investigated factors affecting academic performance in secondary schools in Kenya: a case study of Trans-Nzoia West District. The findings indicated that school factors

greatly contribute to the academic performance of students and that the presence of a well-stocked library, relevant and sufficient textbooks can contribute to good academic performance.

Inadequate physical facilities were established by Wanyonyi (2012) as one of the factors that hamper provision of quality primary education to the physically challenged. It may be carefully concluded that quality learning takes place in quality environments and this case, the quality of physical facilities is part and parcel of this learning environment (Nyabuto, 2007). Wasilwa (2012) also concluded that availability of physical facilities and how they were utilized encouraged students to perform well in K.C.S.E exams and this influenced academic performance. In a different study carried out in Argentina by the Inter-American Development Bank (2008) it was observed that in the case of school resources, a school with low availability of resources, compared to a school with high availability, has a lower score in approximately 15% of the standard deviation of scores. For teacher shortage, we find a similar effect, a difference of 16% of the standard deviation of test scores between the schools with no shortage and the schools with a lot of shortage. It seems that the quality of education in Argentina has a declining trend. This trend is perceived even in the very short period of time of the last 10 years. If we compare Chile with Argentina, Chile was able to improve between 1997 and 2006, but Argentina has been losing positions. The explanation for this poor performance is in part explained by lack of resources allocated to education and also the slope or the efficiency in which those resources are used is in general lower than comparable countries. Argentina is now in a vicious circle of declining quality and a very unequal system. What that means is that students with low Socio Economic status (SES) are

condemned to have a poor quality of education, and aggravating the future problem. Argentina needs to break this cycle allocating enough resources and effort to educate its future labor force properly something the country has not been doing for several years. These findings are in agreement with those of Udoh (2011) who demonstrated that paucity of educational facilities was a significant remote cause of examination malpractice in Nigeria.

It has also been observed that the rapid increase in enrolments at all levels of education without commensurate increase in infrastructure and personnel has led to overstretched facilities, overcrowding in learning institutions and high student staff ratios. All these challenges have had a negative effect on the quality of education (Republic of Kenya, 2008). In a study on factors affecting quality of education in public day secondary schools in Thika, Ruiru, Wanja (2012) concluded that one of the major factors affecting the academic performance was inadequate school physical facilities like laboratories and library facilities. Factors that are closer to the students' actual learning process have the strongest impact. School factors have more impact than more distant factors such as administrative characteristics of the education system at the national level. School resources include material and physical resources such as the quality of a school's physical infrastructure and school size, as well as human resources such as the proportion of teaching staff (Organization for Economic Co-operation and Development, 2013).

In a different study on the management of student discipline in secondary schools in Bungoma District, Simatwa (2007) observed that inadequate classrooms, poor school compound fencing, uncared for gates, inadequate libraries, inadequate water supply and

inadequate lighting system caused misbehavior. Similarly, Kithi (2011) concluded that many school factors influenced utilization of educational resources negatively. Whereas classrooms, latrines, drinking water, long distance from school, shortage of qualified teachers and teaching and learning resources were unfavorable to learning, pupils deserted schools. This led to underutilization of the resources. Further, Mwebi (2012) established that the quality of physical facilities for universities namely libraries, playgrounds, hostels, lecture halls, health facilities and laboratories was low for provision of quality education. He added that most universities were expanding without qualitative and quantitative growth in physical facilities implying that the quality of education was in jeopardy. The study therefore recommended that they ought to provide the requisite physical facilities or be closed down altogether. Omariba (2003) agrees, stating that availability of classrooms, desks, libraries, workshops and laboratories in schools are symbols of higher educational quality. In a different study research pointed to the great importance of school facilities in relation to performance. Differences in school facilities would seem to account for differences in achievement. Such factors include the library, laboratories, dormitories, electricity, water and playing fields. Schools rated with the best facilities performed well in national examinations (Otieno, 2012). Odumbe (2012) validates these findings by concluding that the main physical factors that influenced performance of day secondary schools are adequacy of laboratories, adequacy of libraries, Home science rooms and classrooms.

Whereas the study by Osaikhiuwu (2014) investigated institutional factors affecting the academic performance of public administration students in a Nigerian University, the present study sought to establish the influence of school factors on students academic performance in

secondary education in Kakamega County. It further differs from that of Akin and Folorunso (2014) who only employed the use of the descriptive survey design. The present study in addition used the correlational research design to establish the influence of school factors upon students' academic performance in secondary education in Kakamega County.

### **2.5.2 Textbooks**

The impact of increased textbook use on student learning LDCs is strong. The same effects are not detected in richer countries, probably because of the wider availability of text books in those countries (EFA, 2005). In a study by The World bank (2008) it was established that in Uganda because schools are seriously short of textbooks, little priority is given to the development of school library stocks of appropriate fiction, supplementary curriculum support materials, and basic reference books in most schools. As a result, the majority of students, even in the best schools, do not have access to all the books that they need in order to complete the specified curriculum. The quality of secondary education provided by the majority of lower-tier secondary schools is extremely poor as a result. Textbooks were also identified as a major factor hampering provision of quality primary education to physically challenged (Wanyonyi, 2012). They were also highlighted as a major factor affecting the academic performance in public day secondary schools in Thika-ruiru (Wanja, 2012). Omariba (2003) further established that schools with inadequate supply of textbooks mainly achieved poor results. These findings agree with those of Musungu (2007) who concluded that schools with inadequate supply of textbooks posted poor results by the poor performing schools. Availability of textbooks and other school requirements such as stationery enabled teachers to teach effectively. Ahawo (2010) similarly established that textbooks were vital

for academic performance in mixed day secondary schools. The above studies established the importance of textbooks as a factor in provision of quality education and as a major factor influencing academic performance. What was yet to be established however is the influence of textbooks on students' academic performance in secondary education in Kakamega County. This is the gap the current study sought to fill.

### **2.5.3 Instructional Resources**

Instructional materials are strong school-based quality factors which have the tendency of contributing significantly to students' achievement in Mathematics. It is recommended that they should be provided in schools as they make teaching real and facilitate learners' understanding. Apart from provision by government, teachers should be creative in improvising instructional materials in their different disciplines (Jaiyeoba &Atanda, 2011). Nyabuto (2007) established that availability of adequate learning resources is likely to improve the learning environment, thus promoting the quality of education in that very environment conversely, where teaching and learning resources were unfavorable to learning, pupils deserted schools which led to underutilization of the resources (Kithi, 2011). Musungu (2007) demonstrated that availability of instructional resources is related to students' performance in the national examinations. It was also established that teachers who used teaching aids (charts and models) were able to make students get the correct concepts of the topic taught hence better academic performance.

From the above studies it can be observed that instructional resources greatly enhance learning and improve the quality of education offered to learners and that where such

resources are unfavorable the learning process is often compromised. What was still unknown however was the influence of instructional resources on students' academic performance in secondary education in Kakamega County. This is what the current study sought to establish.

#### **2.5.4 Sporting Facilities**

In a study on School Quality Factors and Secondary School Students' Achievement in Mathematics in South-Western and North-Central Nigeria, Jaiyeoba and Atanda (2011) established that good physical and mental health of school students is essential if they are to fully participate in education services being offered and if they are to concentrate and learn while in school. There is growing evidence that regular physical activity enhances learning and school achievement. Physical activity fuels the brain with oxygen which enhances connections between nerves and assists in memory. Children who participate in daily activity have shown superior academic performance and better attitudes towards school (Dwyer, Blizzard & Dean, 1996). This means that availability of sports facilities which facilitate regular physical activity is also germane to effective learning. In a study on the management of resources in secondary schools, Kataka (2011) established that participation in non-formal curricular activities has enormous benefits. Inadequate provision of resources and their improper management on the other hand impact negatively on the level of students' participation in non-formal curricular activities.

In a different study that explored students' indiscipline in secondary schools in Cameroon, Ngwokabuani (2005) recommended that adequate facilities be provided in schools for effective teaching and learning including adequate playgrounds and physical education.



Sports play a crucial role in education including creating self-esteem and confidence, ability to develop language which makes students understand and communicate ideas more effectively as well as being more regular in school due to good health. Through sports students develop ability to work for long periods, their bodies become flexible as well as being stronger than those who did not participate in sports. In addition sports also refresh the minds of students after the vigorous academic work to prepare them for further academic work. Sports also enable students to concentrate in academics for long periods thus improving their academic performance. Participation in sports has therefore been shown to affect academic performance positively (Mbola, 2010).

The above studies showed that sporting and physical activity enhance the process of learning and contribute positively to academic performance. What was yet to be established however is the influence of sporting facilities on students' academic performance in the secondary education in Kakamega County. This is the gap the present study endeavored to fill.

## **2.6 Influence of Government Policies Factors on Students' Academic Performance in Secondary Education**

The quality of Primary education in Kenya has been challenged by many inefficiencies that include poor attendance in pre-school programmes, high dropout or desertion rate, low retention rates, poor learning environment, inadequacy of teachers, inadequacy of learning resources and inadequacies of physical facilities (Nyabuto, 2007). High quality educational services are a desirable goal, but they are costly to provide. In countries facing severe financial constraints these services inevitably would be available to relatively few people. Therefore, for the system as whole, compromises must be struck between providing

educational services that meet acceptable standards for quality and reaching as many of the target populations as desired. The challenge is to determine what those standards are, bearing in mind that what one country deems ‘acceptable’ may not qualify as such in another country (Mingat, Ledoux & Rakotomalata, 2010). If policy makers can identify the factors that contribute to differences in school performance, this can inform decisions about how to change school performance. For example, identifying the common features of higher performing schools may help with an aim of increasing the performance in particular schools (Organization for Economic Co-operation and Development, 2013).

### **2.6.1 Free Secondary Education**

In a study of California School Districts to establish the effects of school funding on student academic achievement, Tow (2006) established a significant effect of school funding on student academic achievement. Similarly, Nursaw Associates (2015) in a review of the research and evaluation of the impact of institutional financial support on access and student success concluded that institutional findings show that students in receipt of financial support report that it has enabled them to stay on course and that they consider withdrawing less than their peers.

Munda and Odebero (2014) in a study on the influence of education costs on students’ academic performance in Kenya established that a significant positive relationship existed between unit cost and academic performance. They recommended that innovative funding approaches involving a wide range of stakeholders need to be devised to help shore up government efforts and mitigate the deprivation that vulnerable groups endure. Mayeku (2009) on the other hand established that lack of funds has been attributed to the subsequent

challenges encountered in ensuring quality in distance learning programs. These challenges include inadequate resources to support use of current technology, use of outdated facilities, poor teaching and learning practices, staff shortage and inadequate programme review. This view is in agreement with that of Mobegi (2007) who concluded that financial constraints impacted negatively on provision of physical facilities such as laboratories, workshops, science equipment and textbooks.

Free education was enacted before a comprehensive policy framework had been developed which examined the resource and other implications of Free Primary Education (FPE). The expansion of Primary education has been at the expense of quality. The main objectives of FPE were to increase access, eliminate inequalities in participation between groups and sensitize the community to the importance of education. The impact of the abrupt increase in enrolments meant that access to facilities could not expand non-comittaly. Rather, it has led to an increased number of children using existing facilities more intensively, resulting in a substantial increase in class size. In addition, the expansion of the primary system increases the demand for the limited supply (Kadzamira & Rose, 2012).

Financial capacity of a school determines the achievement of educational objectives to a full extent hence there is need for a fair, equitable allocation of resources to all schools in the country. In a study carried out in Zimbabwe, Chevedza et al (2012) established that funding of some education policies was half done or with a lot of conditions attached. Conflict in policy support and funding of mass education militated against the provision of quality education. Education policies need to address the efficiency of resource use in schools. Sufficient resources are necessary if education of acceptable quality is to be attained and

well-implemented increases in resources are an important means of improving educational quality in developing countries.

Nyabuto (2007) concluded that the quality of Primary education in Kenya has been challenged by many inefficiencies that include poor attendance in pre-school programmes, high drop-out or desertion rates, low retention rates, poor learning environment, inadequacy of teachers, inadequacy of learning resources and inadequacy of physical facilities. Our ability to develop the curriculum in the way that we wish to achieve our objectives as a college, school or department will, of course, depend on the resources that are available to us (Everard, Morris & Wilson, 2004). Therefore the government at all levels should furnish schools with modern facilities to aid teaching and learning. Unless this is done, Students will continue to learn in abstraction. They will continue to cheat defensively in examinations on the pretext that they have never done laboratory practices due to lack of facilities (Anger, 2004).

Whereas the study by Nursaw Associates(2015) reviewed published research that primarily focuses on the impact of financial support, the present study collected data by use of questionnaires, interview schedules and document analysis guides which was then analyzed using inferential statistics to establish the influence of Free Secondary Education funding on students' academic performance in secondary education in Kakamega County.

### **2.6.2 In-service Training**

Dangara (2015) in a study to examine the impact of instructional supervision on academic performance of secondary school students in Nasarawa State, Nigeria, recommended regular in-service training for teachers' capacity development. Similarly, Ibe et al(2016) in a study

on the influence of teachers' characteristics on academic achievement of secondary school Biology students recommended that the government should organize periodic conferences, seminars and workshops to enable teachers update themselves on knowledge of subject matter.

A further study by Musau and Abere (2015) on teacher qualification and students' academic performance in Science, Mathematics and Technology subjects in Kenya recommended for the organization of more regular in-service and refresher training of SMT subject teachers to enable them embrace and conform to the emerging technologies in pedagogy. A different study by Kosgei et al (2013) to establish the influence of teacher characteristics on students' academic achievement among secondary schools concluded that teachers' attendance of in-service training is one of the indicators of experience and that there is a statistically significant relationship between the number of years teachers have been teaching the subject and student academic achievement.

There remains a constant struggle by schools to employ and retain high quality teachers especially in areas of rapid population growth, hard-to-staff schools and high demand subjects such as Math and Science (Council for Education Policy, Research and Improvement, 2003). Denham (2013) observed that Education for All (EFA) has resulted in some unforeseen negative consequences such as the neglect of teacher training. Lack of in-service training was identified by Mobegi (2007) as one of the challenges experienced by headteachers in their attempt to provide quality education.

Professional teacher development has been rated as one of the school-level characteristics that are believed to improve teaching (Organization for Economic Co-operation and Development, 2013). The quality assurance department of the education sector should therefore ensure that there is an adequate number of qualified teaching staff for efficient delivery of the curriculum. The sector should also continue to improve the capacity of quality assurance officers, revitalize subject panels at schools, initiate teacher support initiatives and conduct subject based in-servicing (Republic of Kenya, 2008). Whereas the study by Dangara (2015) examined the impact of instructional supervision on academic performance of secondary school students in Nasarawa State, Nigeria, the present study sought to establish the influence of in-service training for teachers on students' academic performance in secondary education in Kakamega County.

### **2.6.3 Bursaries**

A study by Dooley, Payne and Robb (2013) that examined the impact of scholarships and bursaries on persistence and academic success in university in Canada established that there is no much support for the proposition that entrance scholarships and bursaries have sizeable impacts on any of the university outcomes. This was attributed to the fact that the principal benefit to universities of these forms of financial aid is that they attract stronger students to university, especially those from lower-income families, rather than help the students to succeed. Similar findings emerged in a research by Office for Fair Access (OFFA) (2014) that investigated the effect that institutional bursaries had between the academic years 2006-07 and 2010-11 on the retention rates of young full-time first degree students. The findings indicated no evidence that institutional bursary schemes in operation between 2006-07 and

2010-11 had an observable effect on the continuation rates of young full-time first degree students. A different study by Omeje and Abugu(2015) sought to verify the impact of scholarships on students' academic performance using tertiary institutions in Enugu State, Nigeria. The findings of the study indicated that students' academic performances significantly increase with the increase in the award of scholarships, and that there is need for increased award of scholarships to students from poor backgrounds and not to students from high socio-economic status by the government.

Whereas the study by Omeje and Abugu(2015) used survey data generated from 540 questionnaires the present study was a correlational study that sought to establish the influence of bursaries awarded to students upon their academic performance in secondary education in Kakamega County. The present study further differed from that of Dooley et al (2013) which used data from two universities in Ontario to analyze the relationship between entrance financial aid awards and university outcomes. The present study used data collected from secondary schools through principals' questionnaires, deputy principals' interview schedules, document analysis guides and the CQASO's interview schedule.

#### **2.6.4 Quality Assurance and Standards Assessments**

Dangara (2015) while examining the impact of instructional supervision on academic performance of secondary school students in Nasarawa state, Nigeria established that regular instructional supervision using robust supervision strategies like checking of students' notebooks, classroom visitation /inspection by school administrators, checking teachers' lesson plans / notes and inspection of teachers' record keeping have significant

correlation with teachers' performance and academic achievement of students in secondary schools.

Mwinyipembe and Orodho (2014) on the other hand in a study to determine the effectiveness of quality assurance and standards officers (QASOs) supervisory roles and their impact on students' academic performance in national examinations in Nakuru District, Kenya established that while QASOs have the required academic and professional qualifications with long periods of experience in undertaking supervisory roles in curriculum implementation, they are faced with numerous intertwined challenges hampering effective execution of their duties. The study recommended that QASOs should be provided with the requisite finances and resources as well as in-depth training on utilization of assessment techniques so as to intensify informed advisory roles geared towards enhancement of teaching and learning outcomes in secondary schools.

Whereas the study by Mwinyipembe and Orodho (2014) only employed the descriptive survey research design the present study additionally used the correlational design to establish the influence of QASO assessments on students' academic performance in Secondary education in Kakamega County.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter outlines the procedures and strategies that were used in the study. It focuses on the study design, the target population, sources of data, sampling procedures, description of research instruments, administration of the instruments, an outline of the methods which were used to collect, analyze and present data.

#### **3.2 Research Design**

Ex post facto, descriptive and correlational research designs were used in this study. Ex post facto research design seeks to discover possible causes of behavior, which has already occurred and cannot be manipulated (Gall, Gall & Borg, 2007). For the purpose of this study ex post facto design allowed the researcher to get all the relevant information on K.C.S.E performance for the 2011 cohort, K.C.P.E performance for the 2011 cohort, school attendance for the 2011 cohort as well as cases of exclusion and participation in co-curricular activities. This was done through the use of relevant documents such as attendance registers, school fees registers, admission books and K.C.S.E examinations analysis.

Descriptive research design involves careful description of educational phenomena and reports the way things are. The descriptive survey is able to explore the relationship between variables in their natural setting as they occur (Mugenda & Mugenda, 2003). The design was appropriate because it allowed the use of questionnaires as a research instrument for collecting data at a given point in time.

Questionnaires are widely and frequently used in descriptive research because they obtain facts about current conditions and are useful in making inquiries concerning respondents' views and opinions (Mugenda & Mugenda, 2003). This will enable the researcher to get the relevant information on student enrolment, student class attendance, quality in terms of inputs and output in terms of K.C.S.E mean scores as well as information regarding teachers and students in their specific schools. The weaknesses in the questionnaires were dealt with by the use of interview schedule.

According to Mugenda and Mugenda (2003) correlational research design is used to establish the relationship between variables. Correlation involves collecting data in order to determine whether and to what degree a relationship exists between variables. The degree of relationship is expressed as a correlation coefficient ( $r$ ). The design was relevant in this study because it assisted in establishing the relationship between principal factors, teacher factors, school factors, student factors, government policies factors and K.C.S.E performance.

### **3.3 Area of Study**

The study will be carried out in all secondary schools in Kakamega County, Western Kenya. Kakamega County is located in the Western Province of Kenya. It borders Bungoma to the North, Trans Nzoia to the North East, Uasin Gishu and Nandi Counties to the East, Vihiga to the South, Siaya to the South West and Busia to the West.(Appendix V) Kakamega County is Kenya's second most populous county after Nairobi with a population of 1,660,651 (Republic of Kenya, 2011). Its capital town is Kakamega and it serves as the headquarters of Kenya's largest sugar Producing Company, Mumias Sugar.

The County has nine sub-counties namely: Butere, Mumias, Matungu, Khwisero, Shinyalu, Lurambi, Ikolomani, Lugari and Malava. There are 324 secondary schools in Kakamega County. The area of study was arrived at by the researcher because of the consistent below par performance of candidates in the K.C.S.E exam that enables only a few candidates to qualify for competitive courses at the tertiary level. The fact that the County is not producing enough manpower to add value to its Human Resource and contribute towards Kenya's Vision 2030 is a factor that made the area a good subject of study.

The percentage of candidates eligible for admission to tertiary level (C+ and above) was 28% in 2012 and 2013 and 32.2% in 2014. Further, there was a distinct trend in performance of the first three sub-counties namely: Mumias, Matungu and Kakamega South and the last three namely: Matete, Khwisero and Kakamega North. This difference in the quality of outcomes of teaching and learning processes as well as K.C.S.E outputs therefore necessitated the researcher to carry out a study in Kakamega County to establish the influence of principal factors, teacher factors, student factors, school factors and government policies factors on students' academic performance in the County. The 2011 cohort was used as the control group.

### **3.4 Study Population**

The population of this study will comprise of all form four students (comprising the 2011 cohort) in secondary schools in Kakamega County, 324 principals, 324 deputy principals and the County Quality Assurance and Standards Officer (CQASO). The CQASO was selected because he is directly involved in the quality of education offered in schools in the County

and will give the relevant information regarding the influence of student factors, teacher factors, school factors, principal factors and government policies factors on students' academic performance in secondary education in Kakamega County.

The school principals were selected as respondents because they are the school managers and are best placed to avail all the information required on the influence of teacher factors, student factors, school factors, principal factors and government policies factors on students' academic performance in secondary education. The principals had all the documents required including the K.C.S.E results, class registers, admission books and fees registers. With the experience they had had over the years the school principals were best placed to give the relevant information.

The deputy principals were also used as respondents representing the teachers. Being second in command in the management hierarchy in schools they are the link between the administration, the teachers and the students. They gave all the information regarding student factors such as absenteeism from school, prep and class, cases of exclusion as well as participation in co-curricular activities. They also gave relevant information regarding the influence of teacher factors and principal factors on students' academic performance in their schools.

Form four students were also used as respondents since they had been in the respective schools for at least three years. They were the reflection of the quality of education offered in their schools as measured by the K.C.S.E outcomes. They were also impacted upon by the teacher, principal, school and government policies factors and were therefore in a position to assess how these factors influenced their K.C.S.E outcomes.

### 3.5 Sample and Sampling Technique

Saturated sampling technique was used to select the CQASO. The principals and deputy principals were selected through multi-stage sampling technique whereas the form four candidates were selected through proportionate sampling. Fisher Model will be used to determine a sample size of 176 principals. (Kathuri & Pals, 1993).Morse (1994) indicates that a sample of 30 for interviews is sufficient. Therefore 30 deputy principals were interviewed whereas 300 students participated in the focus group discussions.

**Table 3.1: Sample Frame**

<b>Category of Respondents</b>	<b>Target Population (N)</b>	<b>Sample Size (F)</b>
Principals	324	176
Deputy Principals	324	30
Form IV Students (2011)	9000	300
CQASO	1	1

### 3.6 Instruments of Data Collection

Questionnaire, interview schedule, Focus Group Discussion Guide and document analysis guide were used in this study. Questionnaires are widely and frequently used in descriptive research because they obtain facts about current conditions and are useful in making inquiries concerning respondents' views and opinions (Mugenda & Mugenda, 2003). The instrument was selected because it gives the respondent adequate time to give the relevant information required and make it possible for anonymity. Documents used were class registers, fees registers, analyzed K.C.S.E results, library records and admission books as well as the

visitors' books. They were used to collect the data required so as to enable the analysis of the influence of student, teacher, principal school and government policies factors on students' academic performance in secondary education.

Interview was used for the CQASO, deputy principals and the form four students (2011 cohort) during the focus group discussions. Interview is where the respondent is asked a series of questions depending on the information required (Mc Burney & White, 2010).

### **3.6.1 Principals' Questionnaire**

The questionnaire was administered to each school principal from the selected 176 schools. Questionnaires were important in this study as they are widely and frequently used in descriptive research because they obtain facts about current conditions and are useful in making inquiries concerning respondents' views and opinions (Mugenda & Mugenda, 2003). This is the reason they were adapted in this research. The principals' questionnaires were given to the sampled school principals who then volunteered the necessary information to the researcher regarding teacher qualification, age, experience, gender and workload as well as the 2011 K.C.S.E cohort's average age, K.C.P.E mark, school attendance, cases of exclusion and participation in co-curricular activities.

The documents that were analyzed included admission books, class registers, fees registers, visitors' books, library records and analyzed K.C.S.E results. They were used to get information on the average age and K.C.P.E mark of the 2011 cohort, school attendance, cases of exclusion from school, school unrests and the 2011 cohorts' participation in co-curricular activities. Documents in the library were also accessed by the researcher to get information regarding reading materials, Book Student Ratio (BSR) in general and per

subject. The entire process took between two to three hours per school depending on how fast the documents were provided and the school size. The schools with few students took a shorter time while the schools with a high population of students took longer (Appendix I).

### **3.6.2 Interview Schedules for the Deputy Principals and the CQASO**

The deputy principals and the CQASO were interviewed to obtain information regarding the influence of principal factors, teacher factors, student factors, school factors and government policies factors on students' academic performance in secondary education in Kakamega County. The interview is one of the main data collection tools in qualitative research and it is a very good way of accessing people's perceptions, meanings, definitions of solutions and construction of reality (Punch, 2005). Many people are willing to communicate orally than in writing and in this way they will provide data more readily and fully in an interview than in a questionnaire (Nsubuga, 2000).

The investigator in an interview is able to encourage the respondents and to help them probe more deeply into a problem. In this type of interview the reliability of the information gathered is high. It also gives in-depth information about particular cases of interest to the researcher, its systematic and its time saving since the respondent answers what has been asked. The researcher also gets a complete and detailed understanding of issues from the respondent therefore it is comprehensive (Kombo & Tromp, 2006). It was therefore used to get information from all the 30 deputy principals and the CQASO in Kakamega County.

The information collected was in relation to student factors, teacher factors, principal factors, school factors and government policies factors and how they influence students'

academic performance in secondary education in Kakamega County. The respondents were approached by the researcher and informed of the intention of the research which was given earlier. The respondent was then taken through a face to face interview where all the relevant questions on the influence of student, teacher, principal, school and government policies factors on students' academic performance in secondary education in Kakamega County were asked. The respondents gave the information required freely. The interview took between 30minutes and one hour(Appendix II & III).

### **3.6.3 Students' Focus Group Discussion**

There were 300 students in total who participated and who were selected randomly from 30 schools. The students were put into groups of 5 to 10 depending on the school's student population. Kombo and Tromp (2006) define focus group discussion as individuals who share certain characteristics, which are relevant to the study. Mc Burney and White (2010) indicate that focus group discussion is where the researcher works with several people simultaneously, rather than just one. This method was adopted in this study because it solicits a lot of information quickly and is good for identifying and exploring beliefs, ideas or opinions in a community. The discussion was carefully planned and designed to obtain information on the participants' beliefs, ideas and perception on a defined area of interest. The topics to be discussed were decided beforehand (Kombo & Tromp, 2006). This was important because quality pieces of information were collected other than perceptions. This gave the true picture of what was really happening in the County in terms of influence of student, teacher, principal, school and government policies factors on students' academic performance in Secondary education.



The students who participated were selected using the simple random sampling technique. Mc Burney and White (2010) define simple random sampling as choosing a group from one entire population such that every member of the population has an equal and independent chance of being selected in a single sample. The class registers were used to select students randomly. Therefore the students were engaged in discussion and they gave information on the influence of student, teacher, principal, school and government policies factors on students' academic performance in secondary education in Kakamega County (Appendix IV).

#### **3.6.4 Document Analysis Guide**

The documents used included registers, analyzed K.C.S.E results and print outs, admission registers, inventories and fees registers to collect data on the influence of student, teacher, principal, school and government polices factors on students' academic performance in secondary education in Kakamega county (Appendix XXXII)

#### **3.6.5 Validity of the Instruments**

The instruments that were validated were the questionnaire, interview schedules and the Focus Group Discussion Guide. Validity of a measurement instrument is the extent to which the instrument measures what it is supposed to measure what is supposed to measure. Validity takes different forms, each of which is important in different situations (Leedy & Ormrod, Mugenda & Mugenda, 2003, Mc Burney&White, 2010, Punch, 2005, Orodho, 2003). Face and content validity of the instruments were determined. This was done by supervisors who were asked to scrutinize the instruments to ascertain their validity for

measuring variables under study. The supervisors' recommendations were in cooperated to make them valid.

Face validity is the extent to which on the surface an instrument appears to be measuring a particular characteristic but because it relies entirely on subjective judgment, it is not in and of itself convincing fully that an instrument is truly measuring what the researcher wants to measure.

Content validity is the extent to which a measurement instrument is a representative sample of the content area or domain being measured. A measurement instrument has high content validity if its items are in appropriate proportions central to that domain.

### **3.6.6 Reliability of the Principals' Questionnaire**

Reliability of a measurement instrument is the extent to which it yields consistent results when the characteristic being measured has not changed. Like validity, reliability takes different forms in different situations (Leedy & Ormorld, 2005).

Test – retest reliability was adopted in this study because the instrument was to be administered on different occasions in a spread of six months. The instrument was used whereby the instruments were administered to the same respondent twice at an interval of two weeks in 17(10%) of the principals and Pearson product moment correlation coefficient was used to compute the correlation coefficient. The correlation coefficient was 0.8 at a set p- value of 0.05. This means the instrument was reliable as the calculated coefficient was greater than 0.7. Two weeks were found to be standard for these instruments to be piloted again (Mugenda &Mugenda, 2003).

### **3.7 Data Collection Procedures**

Before undertaking the study in sampled secondary schools in Kakamega County the researcher obtained permission from the County Director of Education. Once the permission was granted the researcher informed the principals of the selected schools through written letters three weeks before the study was undertaken. The researcher called the school principals a day to the intended date with the school to remind the school principals of the intention to collect data the following day and requirement of the respondents.

The CQASO was also given an appointment to be interviewed a day to the interview. The principals were also reminded to inform the deputy principals and the form four students regarding the interview and the Focus Group Discussions respectively.

Qualitative data was collected by the researcher. Creswell (2009) indicates that in qualitative research the researcher is the key instrument. He further explains that qualitative researchers collect data themselves through examining documents, observing behaviours, or interviewing participants. They may use an instrument for collecting data but the researchers are the ones who collect the information and they do not rely on questionnaires or instruments developed by other researchers (Creswell, 2009). Since this involved both quantitative and qualitative research the researcher personally visited all the sampled schools and administered the questionnaires to the school principals. The researcher was then given permission to access class registers, admission books, fees registers, visitors' books, ledgers, inventories and K.C.S.E results printouts in the schools. The questionnaires were collected from the principals at the end of the day after interviews and the Focus Group Discussions.

The data required in computing absenteeism of students from school, prep and class, average K.C.P.E mark of the 2011 cohort, average age of 2011 cohort, student- book ratio, amounts disbursed as bursaries and F.S.E. funds as well as quality education was obtained from the class registers, fees registers, inventories, ledgers and the KCSE results print outs by the researcher personally with the help of the school principal. This information took a minimum of 2 hours and a maximum of 4 hours depending on the organization of the school records, easy accessibility and the school size. Some data was obtained from the school archives to get the old registers and to trace the cohorts. The school mean scores were obtained from the school records.

The principals, deputy principals, the CQASO and form four students during the interviews and Focus Group Discussions provided data on student absenteeism, participation in co-curricular activities, experience and qualification of teachers and principals and quality in terms of K.C.S.E mean scores in Kakamega County. The interview with the deputy principals and the CQASO took between 30 minutes and one hour each to give the relevant information on student, teacher, principal, school and government policies factors and their influence on students' academic performance in secondary education in Kakamega County. The Focus Group Discussions with the students took about 80 minutes with each group. The students were selected randomly by use of class registers given by the schools to give them equal chances to participate.

Observation was done to confirm the information given by the respondents on availability of libraries, classrooms, playgrounds, latrines, laboratories, staff houses, electricity and source of water. Data collection process took a period of six months.

### **3.8 Data Analysis**

Qualitative data was analyzed using descriptive statistics in form of Pearson product moment correlation, linear regression analysis and Analysis of Variance (ANOVA). Pearson product moment correlation ( $r$ ) was used to establish the relationship between student, teacher, principal, school and government policies factors and students' academic performance in secondary education in Kakamega County. The computation of the correlation coefficient yielded a correlation coefficient ( $r$ ). This coefficient was used to infer the magnitude of the relationship between student, teacher, principal, school and government policies factors and students' academic performance in secondary education in Kakamega County. It was also used to infer the direction of the relationship between variables and whether the relationship was statistically significant. It also formed a basis for further statistical analysis.

Analysis of Variance (ANOVA) was used to establish whether student, teacher, principal, school and government policies factors were predictors of quality secondary education as measured in K.C.S.E mean scores in Kakamega County. Qualitative data was transcribed, analyzed and reported in emergent themes and sub-themes.

### **3.9 Ethical Considerations**

The researcher officially sought permission to conduct research from the County Director of Education (Kakamega County) and from the National Commission for Science, Technology and Innovation (Appendix XXXIII & XXXIV). She further assured the respondents that their confidentiality and anonymity would be maintained. Data from minors (form four students) was obtained after permission was sought from their respective school principals. The school

principals were further assured that the names of their schools would be concealed and that they would be able to access the results of the study once they were published. In addition, data obtained for purposes of the study was stored securely for further usage.

**Table 3.2: Qualitative Data Analysis Matrix**

<b>Transcript</b>	<b>Themes /Subthemes</b>	<b>Codes</b>
Teachers with high workloads impact negatively on students' grades( CQASO)	Teacher Factors	TF W.L
Chronic absenteeism caused by non- payment of School levies makes students not to perform well in exams (Group <sub>10</sub> )	Student Factors	SF CA
Undergraduate teachers often lack content and rate below average in lesson delivery (D/P <sub>15</sub> )	Teacher Factors	TF U.T
Principals with longer experience are more apt at managing various stakeholders to achieve better results in their schools(CQASO)	Principal Factors	PF P.E
Delays in disbursement of F.S.E often hamper teaching and learning activities thus impacting negatively on performance of students in K.C.S.E (D/P <sub>10</sub> )	Government Policies Factors	GPF FSE
Schools with well equipped laboratories that are frequently used by students often perform well in Science subjects in K.C.S.E (CQASO)	School Factors	SCH.F S.L
I had issues with discipline and was often sent home to bring my parents. This caused me to perform poorly in K.C.S.E (Group <sub>15</sub> )	Student Factors	SF SD
The students we admitted with marks below 250 at K.C.P.E consistently performed poorly in internal exams and ended up performing poorly in K.C.S.E (D/P <sub>20</sub> )	Student Factors	SF EB

**KEY:**

**TF** – Teacher factors  
**WL** – Work Load  
**SCH.F**- School Factors  
**S.L** – School Laboratories

**SF** – School Factors  
**SD** – Students discipline  
**EB** –Entry Behaviour

**GPF**-Government policy factors  
**FSE**- Free Secondary Education  
**CA**- Chronic Absenteeism

**Table 3.3: Summary of Analytical Tools**

<b>Objective</b>	<b>Independent Variable</b>	<b>Dependent Variable</b>	<b>Analytical Tool</b>
1. Influence of student factors on students' academic performance in secondary education	K.C.P.E mark, age, Attendance of school, Participation in co-curricular activities.	K.C.S.E Performance	Descriptive statistics Pearson r, regression
2. Influence of teacher factors on students' academic performance in secondary education	Work load, experience, qualification, age	K.C.S.E Performance	Descriptive statistics Pearson r, regression
3. Influence of principal factors on students' academic performance in secondary education	Qualification, age, Workload, experience	K.C.S.E Performance	Descriptive statistics Pearson r, regression
4. Influence of school factors on students' academic performance in secondary education	Sporting facilities, instructional resources, text books, physical facilities.	K.C.S.E Performance	Descriptive statistics Pearson r, regression
5. Influence of government policies on students' academic performance in secondary education	In- service training, F.S.E, Bursaries, QASO assessments,	K.C.S.E Performance	Descriptive statistics Pearson r, regression



**CHAPTER FOUR**  
**RESULTS AND DISCUSSION**

**4.1 Introduction**

This chapter presents the demographic data of the respondents; results and discussion of the findings of the study. Data analysis was done using Pearson's r and regression analysis. The findings and discussions are presented according to the study objectives under the following themes:

- i. Influence of student factors on students' academic performance in secondary education.
- ii. Influence of teacher factors on students' academic performance in secondary education.
- iii. Influence of principal factors on students' academic performance in secondary education.
- iv. Influence of school factors on students' academic performance in secondary education.
- v. Influence of government policies factors on students' academic performance in secondary education.

**4.2 Return Rate of the Questionnaires**

The return rate of the principals' questionnaires was as shown in Table 4.1.

**Table 4.1: Return Rate of the Principals' Questionnaires.**

<b>Respondents</b>	<b>Issued number</b>	<b>Returned</b>	<b>Percentage (%)</b>
Principals	176	176	100
Total	176	176	100

From Table 4.1 it can be observed that all principals returned the questionnaire as was required. The return rate of the questionnaires was therefore 100%. The respondents of this study included school principals, K.C.S.E candidates (2011 Cohort) and the CQASO.

### 4.3 Demographic Characteristics of Principals

The respondents of this study included school principals, K.C.S.E candidates (2011 Cohort) and the CQASO. The demographic characteristics of the principals are as shown in Tables 4.2 and Table 4.3.

**Table 4.2: Principals' Gender, Qualification and Age**

<b>Demographic Characteristic</b>	<b>Frequency (f)</b>	<b>Percentage (%)</b>
<b>Gender</b>		
Male	116	65.9
Female	60	34.1
<b>Total</b>	<b>176</b>	<b>100</b>
<b>Qualification</b>		
BSC	2	1.1
BED	148	84.1
MA	3	1.7
MED	23	13.1
<b>Total</b>	<b>176</b>	<b>100</b>
<b>Age (in years)</b>		
36-45	26	14.8
46 -55	124	70.4
56-60	26	14.8
<b>Total</b>	<b>176</b>	<b>100</b>

Table 4.2 provides demographic characteristics of the respondents. It can be observed that out of the 176 principals involved in the study 116(65.9%) were male whereas 60(34.1%) were female.

This shows that very few female teachers are appointed as school principals in Kakamega County. This is in agreement with a study carried out in a sampled number of schools in Kenya by Bosire et al (2009) who indicated that out of the sampled school principals 22(79%) were male while 6(21%) were female. From Table 4.2 it can further be observed that 2(1.1%) of the principals are holders of a BSC degree; 148(84.1%) have a B.ED degree; 3(1.7%) are holders of the MA degree and 23(13.1%) are holders of an MA degree. Based on these findings it is clear that all the principals had the required level of education. They were therefore in a position to understand and give the relevant information regarding the influence of selected factors on students' academic performance in secondary education.

Further, Table 4.2 shows the age in years of the principals. 26(14.8%) were aged between 36-45 years; 124(70.5%) were aged between 46-55 years and 26(14.8%) were aged between 56-60 years. The fact that most of the principals were aged between 46-55 years is an indication that they had served for many years in the teaching profession and therefore had a good grasp of the factors influencing students' academic performance in secondary education. The demographic data was further used to establish headship experience in their current stations and in previous stations as well as their teaching loads. The results are as shown in Table 4.3.

**Table 4.3: Principals' Headship Experience and Teaching loads**

<b>Demographic Characteristic</b>	<b>Frequency (f)</b>	<b>Percentage %</b>
<b>Experience in current station</b>		
1-5 years	43	27.8
6-10 years	113	64.3
11-12 years	14	7.9
<b>TOTAL</b>	<b>176</b>	<b>100</b>
<b>Experience in other stations</b>		
0-1 years	117	65.4
2-5 years	45	26.6
6-8 years	14	8.0
<b>TOTAL</b>	<b>176</b>	<b>100</b>
<b>Teaching load (lessons of 40 minutes)</b>		
3-9	100	56.8
10 -15	76	43.2
<b>TOTAL</b>	<b>176</b>	<b>100</b>

From the findings in Table 4.3 it can be observed that only 14(7.9%) of the principals had served as principals for over 10 years, whereas 49(27.9%) had served for between 1-5 years. 113(64.1%) had served for 6-10 years. These findings indicate that most of the principals had been in their current stations for a considerable period of time and were therefore well versed with the factors influencing students' academic performance in their schools. Table 4.3 further shows the headship experience of the principals in other stations. 117(66.5%) principals were serving as principals for the first time in their current stations. 45(25.6%) had

previously served as principals for a period of 2-5 years and 14(8%) had served for between 6-8 years previously. The implication of this is that most of the principals were serving as principals for the first time in their current stations. In spite of this they had considerable experience as principals to be able to fully comprehend and assess the influence of various factors on students' academic performance in secondary education. Finally Table 4.3 shows the workload of the principals. 100(56.8%) taught between 0-9 lessons in a week whereas 76(43.2%) taught between 10-15 lessons. This shows that the principals had good curriculum leadership and could therefore be relied upon to give information related to the influence of various factors on students' academic performance in secondary education.

#### **4.4 School Data**

Information regarding school data was obtained from the responses of the principals in the questionnaires and was tabulated as shown in Table 4.4.

**Table 4.4: School Data**

<b>Number of Students</b>	<b>Frequency (f)</b>	<b>Percentage (%)</b>
95-200	71	40.3
202- 300	39	22.2
305-500	36	20.5
510-800	23	13.0
1000-1300	7	4.0
<b>Total</b>	<b>176</b>	<b>100.0</b>
<b>Number of form four students</b>		
12-40	61	34.7
41-80	60	34.1
81-120	24	13.6
122-160	16	9.1
166-195	8	4.5
229-366	7	4.0
<b>Total</b>	<b>176</b>	<b>100.0</b>
<b>Number of Streams Per Class</b>		
1	103	60.6
2	45	24.0
3	17	9.7
4	4	2.3
5	5	2.8
6	1	0.6
<b>Total</b>	<b>176</b>	<b>100.0</b>
Average class size		
18-45	107	60.8
50-60	66	37.5
65-70	3	1.7
<b>Total</b>	<b>176</b>	<b>100.0</b>

**Teacher – Student Ratio**

1:9-1:15	99	56.3
1:16-1:20	64	36.3
1:21-1:28	13	7.4
<b>Total</b>	<b>176</b>	<b>100.0</b>

**Book- Student Ratio**

1:1	8	
1:2	31	
1:3	55	4.5
1:4	31	17.6
1:5	22	12.5
1:6	16	9.1
1:7	13	7.4
<b>Total</b>	<b>176</b>	<b>100.0</b>

**Frequency of Testing Policy**

1	1	0.6
2	59	33.5
3	79	44.9
4	37	21.0
<b>Total</b>	<b>176</b>	<b>100.0</b>

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It can be observed from Table 4.4 that most of the schools had a population of 200 students and below as shown by a frequency of 71(40.3%). This means that most of the schools were starting schools which are mainly characterized by low enrolment, shortage of teachers and shortage of other facilities such as textbooks, libraries and laboratories. Only 7(4.0%) of the schools had a population of 1000 students and above. These are usually the schools that have sufficient facilities such as textbooks, libraries, laboratories and staff houses. They are also adequately staffed. Even in cases where they do not have enough teachers posted by the

Teachers Service Commission (TSC) they can easily afford to hire qualified teachers on Board.

It can further be observed from Table 4.4 that most schools had a candidature of 12-40(34.7%) and 41-80(34.1%). This as observed above means that most of the schools were starting schools which were still having challenges with staffing and provision of essential facilities such as staff houses and boarding facilities for students. This was therefore likely to affect the quality of education provided in secondary schools in Kakamega County. This corresponds with the data showing the number of streams per class in Table 4.4. It can be observed that 103(60.6%) of the schools were single-streamed. Most of these were day schools where students faced numerous challenges such as walking long distances to school, lack of sufficient teacher-student contact hours and lack of reading opportunities at night. This was likely to have a negative influence upon students' academic performance in secondary education in Kakamega County.

This information further tallies with that regarding average class size which shows that 107(60.8%) of the schools had an average class size of 18-45 whereas 66(37.5%) had an average class size of 50-60. However from the interviews with the deputy principals and analysis of available documents such as class registers and enrolment trends it emerged that there were schools which were registered as double-stream schools but on the ground only had one stream. This was attributed to emergence of numerous new schools in the same neighborhood which caused mass movement of students most of whom were unable to pay fees and therefore moved to a neighboring school to avoid dropping out of school altogether.



Table 4.4 further shows that 99(56.3%) of the schools had a teacher-student ratio of between 1:9 and 1:15, whereas 64(36.3%) had a teacher-student ratio of between 1:16 and 1:20. However from the analysis of available documents it emerged that the lower ratios were ironically in the schools with low population of students. The low enrolment translated to insufficient funds to purchase teaching and learning materials, hire qualified teachers and avail facilities such as libraries, laboratories and staff houses which are essential in facilitating provision of quality secondary education.

Further Table 4.4 shows that only 8(4.5%) of the schools had achieved a book student ratio of 1:1 whereas 31(17.6%) of the schools had a book-student ratio Of 1:2.

#### **4.5. Influence of Student Factors on Students' Academic Performance in Secondary Education.**

The first objective of the study was to determine the influence of student factors on students' academic performance in secondary education in Kakamega County. The study sought to establish the influence of student factors on the performance of candidates in the K.C.S.E examination. The data for the student factors was obtained from the responses of the principals in the questionnaires and it is tabulated in Table 4.5.

**Table 4.5: Student Factors influencing Students Academic Performance as Indicated by Principals (n = 176)**

<b>Student factors</b>	<b>Frequency of cases experienced</b>	<b>Number of Schools (f)</b>	<b>Percentage (%)</b>
<b>School Unrest (2011)</b>			
	Nil	164	93.2%
	1	12	6.8
	<b>Total</b>	<b>176</b>	<b>100</b>
<b>School Unrest (2012)</b>			
	Nil	126	71.6
	1	50	28.4
	<b>Total</b>	<b>176</b>	<b>100</b>
<b>School Unrest (2013)</b>			
	Nil	155	88.1
	1	21	11.9
	<b>Total</b>	<b>176</b>	<b>100</b>
<b>School Unrest (2014)</b>			
	Nil	172	97.7
	1	4	2.3
	<b>Total</b>	<b>176</b>	<b>100</b>
<b>Average K.C.P.E mark</b>			
	180-249	72	40.9
	250-349	65	36.9
	350-399	38	21.6
	400 -450	1	0.6
	<b>Total</b>	<b>176</b>	<b>100</b>
<b>Cases of Exclusion (2011)</b>			
	Nil	155	88.1
	1	16	9.1
	2	5	2.8
	<b>Total</b>	<b>176</b>	<b>100</b>
<b>Cases of Exclusion (2012)</b>			
	Nil	53	30.1
	1	84	47.7
	2	38	21.6
	3	1	0.6
	<b>Total</b>	<b>176</b>	<b>100</b>

<b>Cases of Exclusion (2013)</b>			
	Nil	131	74.4
	1	35	19.9
	2	10	5.7
	<b>Total</b>	<b>176</b>	<b>100</b>
<b>Cases of Exclusion (2014)</b>			
	Nil	174	98.9
	1	1	0.6
	2	1	0.6
	<b>Total</b>	<b>176</b>	<b>100</b>
<b>Participation in co-curricular Activities (Number of times in a week)</b>			
	Nil	2	1.1
	1	52	29.5
	2	59	33.5
	3	29	16.5
	4	12	6.8
	5	21	11.9
	6	1	0.6
	<b>Total</b>	<b>176</b>	<b>100</b>
<b>Age</b>	17 years	6	3.4
	18 years	95	53.9
	19 years	63	35.8
	20 years	5	2.9
	21years	7	4.0
<b>Total</b>	<b>176</b>	<b>176</b>	<b>100</b>
<b>Absenteeism (2011- 2014)</b>			<b>Average</b>
From school	11786	121	68.75
From class	8255	34	19.32
From prep	2241	21	11.93
<b>Total</b>	<b>176</b>	<b>176</b>	<b>100</b>

Further, from the responses in the Principal's questionnaires the dependant variable (2014 K.C.S.E performance) was also established and is shown in Table 4.6. This was

used to establish the influence of student factors on students' academic performance in secondary education in Kakamega County.

**Table 4.6: 2014 K.C.S.E Performances for the Selected Schools. (n = 176)**

<b>K.C.S.E Performance(In Mean Scores)</b>	<b>Frequency ( f )</b>	<b>Percentage (%)</b>
2.70 – 4.99	90	51.1
5.00 – 5.99	37	21.0
6.00 – 6.99	19	10.8
7.00 – 7.99	16	9.1
8.00 – 8.99	10	5.7
9.00 – 9.99	3	1.7
10.00 – 10.99	1	0.6
<b>Total</b>	<b>176</b>	<b>100</b>

To establish the influence of the student factors on K.C.S.E performance statistical analyses in the form of Pearson's moment correlation were carried out. Table 4.7 shows the relationship between student factors and students' academic performance in K.C.S.E.

**Table 4.7: Relationship between Student Factors and Students' Academic Performance in K.C.S.E.**

<b>Student Factors</b>	<b>Student Academic Performance in KCSE</b>
Pearson's r	.876
Sig (2-tailed)	.000
N	176

From Table 4.7 it can be noted that there was a strong positive relationship between student factors and student academic performance ( $r = .876$ ,  $N = 176$  and  $p < .05$ ). The relationship between students factors and students academic performance was significant. The null hypothesis was therefore rejected. This means that student factors enhanced student academic performance in K.C.S.E.

To establish the relationship between individual student factors, and students academic performance, Pearsons  $r$  was computed. The results were as shown in Table 4.8.

**Table 4.8: Relationship between Student Factors and Student Academic Performance**

**(n=176)**

<b>Students Factors</b>		<b>Student academic performance</b>	
X <sub>1</sub> (School unrest)	r	.090	
	p	.232	
	n	176	
X <sub>2</sub> (K.C.P.E Mark)	r	.846	
	p	.000	
	n	176	
X <sub>3</sub> (Age)	r	-.502	
	p	.000	
	n	176	
X <sub>4</sub> (Absenteeism from school)	r	.065	
	p	.393	
	n	176	
X <sub>5</sub> Absenteeism from class	r	.044	
	p	.565	
	n	176	
X <sub>6</sub> (Absenteeism from prep)	r	.290	
	p	.000	
	n	176	
X <sub>7</sub> (Exclusion from school)	r	0.72	
	p	.345	
	n	176	
X <sub>8</sub> (Participation in co-curricular Activities)	r	.753	
	p	.000	
	n	176	

**r-** Pearson correlation coefficient

**p-** Calculated critical Value

**n** –sample size

From Table 4.8 it can be observed all the eight student factors had relationship with students academic performance. Age ( $X_3$ ) had a negative relationship with students academic performance. Those factors that had moderate to high relationship with student academic performance were;  $X_2$  (KCPE mark)  $X_8$  (participation in co-curricular activities),  $X_7$  (Exclusion from school), and  $X_3$  (Age). Absenteeism from school ( $X_5$ ) and  $X_1$  (school unrest) had a very weak relationship with students academic performance.

As regards KCPE remark, one deputy principal described students who entered form one with high KCPE marks as “motivated, easier to learn and that they also easily grasped the various concepts in class causing them to score high grades in class and eventually in K.C.S.E”. Those who with low entry marks on other hand were said to lack self confidence, had low self-esteem and performed below average in class and eventually in K.C.S.E. In the interview with the CQASO, his views were in agreement with the questionnaire findings. He observed that National and county schools that required a higher entry mark on admission usually performed better in K.C.S.E as compared to sub county schools which admitted students with lower marks at K.C.P.E. From the focus Group Discussions (FGDs) it emerged that the candidates themselves had similar views as established through the questionnaire findings. They observed that their peers who performed well at K.C.P.E level went on to perform well in secondary school. When asked about some their peers who had not performed well in K.C.S.E one observed; “that one (referring to a classmate who had scored a D+) even in primary school she was always behind, in fact she repeated class six and seven.”

These findings are in agreement with those of Nakhanu (2009) who established entry behaviour of students as a factor affecting syllabus coverage. She observed that students who entered form one with low KCPE marks were found to be slow learners and thus delays coverage of the syllabus. Mobegi (2007) similarly identified low entry behaviour as a challenge experienced by head teachers in their attempt to provide quality education.

However, data from document analysis showed students who entered form one with relatively low K.C.P.E marks but went on to perform well in K.C.S.E. In some of the schools they had even performed better than their peers who scored higher marks than them at K.C.P.E. This could be attributed to various factors. Some of the students who had been in day schools at K.C.P.E seem to have faced insurmountable challenges causing them to perform poorly. However with the advantage of boarding school at secondary level they went on to perform well in K.C.S.E. This exception to the rule could also be attributed to students who were in Primary schools that were understaffed and with limited facilities such as text books. Going to secondary school that had adequate facilities would enable them score low marks at K.C.P.E if these factors are controlled at Secondary school however, a student may eventually score high grades at K.C.S.E.

The questionnaire findings further established that there was a moderate negative relationship between a candidate's age and their performance in K.C.S.E ( $r = - 0.520$ ). This relationship was significant ( $P < 0.05$ ). This means that an increase in age beyond 18 years reduces students' performance in K.C.S.E. An older candidate would therefore negatively influence their K.C.P.E performance.



In the interview with the deputy principals one of them described the students aged above 18 years as slow learners who joined secondary school with low K.C.P.E marks. He observed that most of them were over 18 because they repeated classes either at primary level and/or at secondary level. In yet another interview a deputy principal described the students aged above 18 years as: “having discipline problems and more likely to flout rules they also had problems with taking instructions from their younger peers making it difficult for them to benefit from group activity which would otherwise boost their academic performance”

From the FGDs the candidates described their counterparts aged above 18 years as bossy and not open to criticism and correction. One candidate described one such classmate as: “suffering from low self esteem and always on the defensive ..... even when the views he holds are not correct. He will not accept correction thus making it difficult for them to get along with others...” These traits made it difficult for these students, most of whom were low achievers to benefit from teachers and their peers, which would have greatly improved their grades. These sentiments are consistent with the findings of Burke and Sass (2008) who established that weak students appear to experience the biggest positive impact from having top quality peers.

The findings of this study further agree with those of Bucheche (2011) who established that persistent poor academic performance was a factor that led to repetition causing students to be overage for a particular class. Similarly, studies by Nakhanu (2000), Mobegi (2007) and Odumbe (2012) established that low performance in school led to some

students repeating a given grade thus causing them to lag behind their peers due to their advanced age.

An analysis of available documents brought to light other reasons for candidates being overage. For instance there were girls who had dropped out of school due to teenage pregnancies and decided to go back to school. There were also boys who dropped out due to lack of fees or child labour and later decided to resume school. This study established that even though these students were not overage due to having a low aptitude they still performed comparatively lower due to being out of sync with their peers. They tended to be domineering or lacking in self esteem thus unable to utilize fully the cooperation and knowledge of their classmates.

It was further established through the questionnaire findings that there was a strong positive relationship between student participation in co-curricular activities and performance in K.C.S.E ( $r = .753$ ). This relationship was significant ( $P < .05$ ). This means that increase in student participation in co-curricular activities improves their performance in K.C.S.E. A student who participated regularly in co-curricular activities was therefore likely to perform better in K.C.S.E than his counterpart who seldom participated or engaged in co-curricular activities.

In the interview with the CQASO he acknowledged that most of the schools that performed well in academics in the County had an established culture of student participation in sports and co-curricular activities. He also added that schools that did not put emphasis on

participation in sports and co-curricular activities failed to achieve optimum results in academics from their students especially in the KCSE exam. From the interviews with the deputy principals it was evident that they were in agreement with the findings from the questionnaires. One deputy principal described student who participated in co-curricular activities as “focused, attentive in class and good time managers” which caused them to easily excel in academics.

In a different school that had an established routine and culture of participation in co-curricular activities the deputy principal described the students as “self motivated, having the ability to multi- task and participated actively in group activity”. In contrast a deputy principal of a school where candidates seldom participated in sports and co-curricular described the candidates as “inactive”, irritable and lacking motivation and self drive”, from these findings it was evident that candidates who frequently participated in sports and co-curricular activities had an advantage over their less active peers as they had better chances of performing better academically. Similarly from the FDGs the candidates were in agreement with the findings from the interviews. They concurred that their more active peers who participated frequently in sports and co-curricular activities were more active in class and also performed well in academics.

In a different school where students rarely engaged in sport and curricular activities but had a vigorous academic schedule nonetheless students told of feeling fatigued, exhausted and unable to concentrate during evening prep. One student said: “by evening I usually feel exhausted, fatigued and sleepy and yet there is so much to do which makes me feel like everything is too much”

This unlike a student from a school that had a deliberate program for candidates to engage in sports said;

By afternoon we are usually exhausted because we wake up very early in the morning and our timetable is usually packed. However because sports is compulsory for candidates at 4.00 o'clock we usually feel refreshed and feel active enough to tackle the evening program.

In some of the school however, document analysis provided exceptions to the above findings. Schools that had an established culture of excellence in a particular sport seemed to admit students specifically for the sport. These were the students who participated actively and excelled in co-curricular activities but nonetheless performed poorly in class and in exams. Their KCPE mark was also low thus establishing that participating in co-curricular activities alone does not guarantee excellence in academics. There are other factors to consider such as aptitude, parental guidance as well as academic foundation. The other factors that influenced students' performance in K.C.S.E but were not significant were school unrests, absenteeism from school, absenteeism from class, absenteeism from prep and exclusion from school.

The student factors were further subjected to stepwise regression analysis to establish the students factors that influenced students academic performance actual. The results were as shown in Table 4.9

**Table 4.9: Stepwise Regression Analysis the Influence of Student Factors on Students' Academic Performance**

Model	Unstandardized coefficients		Standardized coefficients	t	Sig
	B	Std . Error	Beta		
(constant)	5.700	2.633		2.165	.032
X <sub>1</sub> KCPE Mark	0.18	0.002	0.649	9.569	.000
X <sub>2</sub> Age	-0.339	0.137	0.110	-2.479	.014
X <sub>3</sub> Exclusion from school	0.142	0.066	0.091	2.161	.032
X <sub>4</sub> Participation in Co-curricular activities	0.096	0.032	0.194	3.021	0.003

a. Dependant Variable: 2014 Mean Score Regression Equation:  $Y = a + \beta_1 + \beta_2 + \beta_3 + \beta_4$

In stepwise regression analysis independent variables were added into the equation model one by one and at each stage, any variable which was already included in the model but whose extra sum of squares ( $R^2$ ) contribution had declined to a non-significant level was eliminated. Selection stopped when all non-significant variables were eliminated and all variables that were significant were retained.

From Table 4.9, it can be noted that age, participation in co-curricular activities, KCPE and exclusion from school were the students factors that were statistically significant in the stepwise regression model at the set .05 significant level in a two tailed test and hence were retained to be used in the regression equation model. The variable of K.C.P. E mark was significant ( $P = 0.00$ ), indicating that K.C.P.E mark was a significant predictor of K.C.S.E performance. This means that an increase by 1% of K.C.P.E mark increased students academic performance in K.C.S.E by 0.18 percent as signified by a coefficient of 0.18.

The findings of this study on the influence of K.C.P.E mark on performance in K.C.S.E indicate that the higher the entry mark obtained by students at K.C.P.E the higher the grade they were likely to score at K.C.S.E level. However there are other factors that may cause a student to score higher at K.C.S.E than they did at K.C.P.E. A student who may have been disadvantaged by travelling long distances to school in primary school may perform better at K.C.S.E if he goes to a secondary school that allows him ample time to concentrate on his studies. Similarly students who were in under-staffed primary schools that had insufficient resources such as textbooks were likely to perform better at K.C.S.E if they went to schools that were adequately staffed and had sufficient learning and teaching resources. Conversely, a student who performed well at K.C.P.E but became indisciplined at secondary level was likely to perform worse at K.C.S.E. as would a student who went to a school that was under-staffed and had insufficient teaching and learning resources.

These findings are in agreement with those of Nakhanu (2009) who established entry behavior of students as a factor affecting syllabus coverage. She observed that students who entered form one with low K.C.P.E marks were found to be slow learners and thus delayed coverage of the syllabus. Similarly Mobegi (2007) identified low entry behaviour as a challenge experienced by headteachers in their attempt to provide quality education. In contrast however Onyechere (1996) in a handbook on Examination Ethics established that the zeal of students to study can be ignited by exposing them to continuous assessment procedure which would also enable them develop self confidence and put less emphasis on certification. This therefore means that a student who performed poorly at K.C.P.E but

gets the necessary inputs in terms of motivation and continuous assessment may end up performing well at K.C.S.E.

In contrast a student who scored highly at K.C.P.E but fails to put in effort in secondary level may end up performing poorly at K.C.S.E. Similarly, a student who was merely drilled by his teachers at Primary level and committed to memory concepts he did not really understand may fail to perform well at K.C.S.E where he is required to understand and communicate ideas intellectually. This study therefore recognizes that a student's capacity as well as prevailing circumstances may either add value or devalue at KCSE the grade scored at K.C.P.E.

The findings of the study further established age as a significant factor influencing provision of quality secondary education as the calculated p-value of 0.014 was less than the set p-value of 0.05. The influence of age on KCSE performance was however negative. This means that an increase in one unit of the age of a candidate will decrease performance in K.C.S.E by 0.339 units as signified by a coefficient of -0.339. These findings concur with document analysis data which showed average students scoring lower grades than their younger counterparts. They further agree with those of Bucheche (2011) who established that persistent poor academic performance was a factor that led to repetition causing students to be average for a particular class. Similarly, studies by Nakhanu (2000), Mobegi (2007) and Odumbe (2012) established that low performance in school led to some students repeating a given grade thus causing them to lag behind their peers. The findings of this study together with the reviewed literature indicate average

conditions as scoring low grades. The indication is that a student is forced to repeat a given class or classes due to poor performance and therefore lags behind his peers.

However there may be other factors that cause student to lag behind their peers other than performance. Teenage pregnancies and early marriages for example may cause a girl to drop out of school for sometime but resume later. Boys also may drop out of school due to drug and alcohol abuse or child labour. When these students resume school they may perform poorly not because of being less endowed academically but because they have other issued prevailing circumstances that need to be addressed to enable them concentrate in class and perform well. Each case of an average student therefore needs to be addressed individually without the assumption that all average students lagged behind due to repetition caused by poor performance.

From Table 4.9 it can also be observed that participation in co-curricular activities positively influenced performance in K.C.S.E. The variable of participation in that an increase in one unit of participation in co-curricular activities was significant as the calculated p-value of 0.003 was less than the set p-value of 0.05. This means that an increase in one unit of participation in co-curricular activities will increase performance in K.C.S.E by 0.096 units as signified by a coefficient of 0.096. It can therefore be deduced that reduced participation in co-curricular activities negatively affected results obtained in K.C.S.E. These findings are in agreement with those of Jaiyeoba and Atanda (2011) in a study on “School Quality Factors and Secondary School Students’ achievements in Mathematics in South- Western and North -Central Nigeria” who established that good



physical and mental health of school students is essential if they are to fully participate in education services being offered and if they are to concentrate and learn while at school. They are further consistent with those of Dwyer et al (1996) in a study titled 'Physical Activity and Performance in Children' who showed that there is growing evidence that regular physical activity enhances learning and school achievement and that physical activity fuels the brain with oxygen which enhances connections between nerves and assists in memory. They further established that children who participate in daily activity have shown superior academic performance and better attitudes towards school. What this meant was that availability of sports facilities which facilitates regular physical activity is also germane to effective learning.

These views are further weighted by Kataka (2011) in a study titled 'Management of Resources in Secondary Schools and its Implications on the level of Participation in Non – Formal Curricular Activities' who is established that participation in non- formal curricular activities has enormous benefits. Similarly, Mbola (2010) in a study titled 'Participation in Sports and Academic Performance of Secondary School Students in Rachuonyo District' demonstrated that sports play a crucial role in education including creating self esteem and confidence , ability to develop language which makes students understand and communicate ideas more effectively as well as being more regular in school due to good health. Further through sports students develop ability to work for long periods, their bodies become flexible as well as being stronger than those who did not participate in sports. Participation in sports was therefore shown to affect academic performance positively as it refreshes the minds of students after the vigorous academic work to

prepare them for further academic work. It was also established as enabling students to concentrate in academics for long periods thus improving their academic performance .

An analysis of available documents however brought to light different findings. There were records of students who excelled in sports and co-curricular activities but whose performance in class and eventually in K.C.S.E was below average. Some of these students had been admitted to their respective schools for the sole purpose of adding value to the sports in which they participated, their grades notwithstanding. It was evident that little was done to assist such students achieve better grades academically in as much as the initial agreement was based upon their contribution to enable the schools excel in co-curricular activities.

The results in Table 4.9 further indicate that exclusion from school ( $P= .032$ ) was a significant predictor of K.C.S.E performance as the calculated p- value of 0.032 was less than the set p-value of 0.05. Findings from document analysis indicated that students were mainly excluded from school due to issues related to discipline for example drug and alcohol abuse, boy-girl relationships that culminated into teenage pregnancies and involvement in school strikes or unrests. Excluding such students from school may therefore mean that students are free of negative influence and can therefore have ample time to concentrate on academics and excel. These findings concur with those of Mobegi (2007) who highlighted headteachers as reporting that indiscipline cases contributed to low performance. In further agreement are the findings of the interview with the CQASO who observed that schools that had cases of school unrest and other discipline – related issues often performed poorly in academics as reflected in their KCSE results. He noted

that even schools that had a long standing history of performing well in examinations often performed poorly in the years when unrests or major discipline issues were highlighted in those schools. Similarly in the interviews with the deputy principals most of them observed that an indisciplined student often affected negatively their own as well as others' academic performance.

In the FDGs the respondents were able to cite examples of their peers who were bright but whose grades dropped drastically due to involvement in indiscipline that often caused them to miss school and/or class. A different candidate who had discipline problems that occasioned him to be away from school was described by his peers as: "Disruptive, not keen on group activity and found little time to concentrate on his studies."

The positive impact of excluding a student from school can be attributed to the minimized disruptions that such student(s) would cause to a class thus negatively affecting their performance. The exclusion of such students would therefore cause the rest to concentrate on their studies knowing the repercussions of being indisciplined. Eventually this would have a positive impact on their academic performance.

Data from document analysis in some of the schools indicated that some students were excluded from schools due to poor academic performance. Excluding such students from a class would inevitably cause the mean of such a class to go up. However effort needs to be put in rehabilitating students instead of excluding them. Whether indisciplined or low-achiever excluding a student simply transfers a problem to a different school or even causing them to drop out of school altogether negating the very essence of providing quality education to all. The other factors, that is, school unrest, absenteeism from school,

absenteeism from class, absenteeism from prep and exclusion were not significant in influencing students' performance. Regression model is  $Y = 5.7 + .18X_1 - .339X_2 + .142X_3 + .096X_4$

To determine the influence of student factors on student academic performance, regression analysis was computed and the results were as shown in Table 4.10.

**Table 4.10: Regression Analysis of the Influence of Student Factors on Students' Academic Performance**

Model	R	R Square	Adjusted R square	Std. Error of the estimate
1	.876 <sup>a</sup>	.768	.756	.835

a. Predictors (constant) , participation in co-curricular activities, exclusion from school, Age, KCPE mark

From Table 4.10 it can be noted that student factors accounted for 75.6% of students' academic performance in K.C.S.E as signified by the coefficient of determination adjusted R square .756. This means that 24.4% of the students' performance was as a result of other factors that were not subjects of this study. The finding that student factors strongly influence the performance of students in K.C.S.E concurred with Farooq et al's findings that variables that affect students' quality of academic achievement are inside and outside of school. These could therefore be factors such as parental level of education, availability of study time, study habits or even the discipline of the students themselves. Mobegi (2007) and Bucheche (2011) both identified discipline as a factor that contributed to low academic performance. From the interview with some of the deputy principals they asserted that orphaned and vulnerable children (OVCs) faced unique challenges that contributed to their low performance as did students who lived with terminally ill parents. Students in

the FGDs also told of challenges alcoholic parents and lack of basic necessities such as soap sanitary towels that minimized their concentration in class causing them to perform poorly.

The data was also subjected to ANOVA to establish whether student factors were significant predictors of K.C.S.E performance. The results were as shown in Table 4.11

**Table 4.11: ANOVA test for Student Factors and Students' Academic Performance**

	<b>Model</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean square</b>	<b>F</b>	<b>Sig.</b>
	Regression	384.622	4	48.078	69.955	.000 <sup>b</sup>
1	Residual	116.437	172	.697		
	Total	501.059	176			

a. Dependant Variable : 2014 mean score

b. Predictors (constant), participation in co-curricular activities, exclusion from school, Age, KCPE mark

From Table 4.11, it can be observed that student factors were significant predictors of K.C.S.E performance as indicated by the calculated P-value of 0.000 which was less than the set critical p-value of 0.05. ( $F(4,172) = 69.955, p < .05$ )

#### **4.6. Influence of Teacher Factors on Students' Academic Performance in Secondary Education**

The study sought to establish the influence of various teacher factors on the performance of candidates in the K.C.S.E examination in Kakamega County.

To accomplish this objective teacher factors were established and tabulated (Table 4.11) These factors were: teacher qualification (M.Ed, Dip Ed or undergraduate), teaching experience, teacher's age, teacher's gender and teaching load.

**Table 4.12: Teacher Factors influencing Students academic performance as Indicated by Principals (n= 2112)**

<b>Teacher Factors</b>	<b>Frequency ( f )</b>	<b>Percentage (%)</b>
<b>Teacher Qualification</b>		
M.ED	218	10.3
Dip. ED	372	17.6
B.ED	1157	54.8
Undergraduate	365	17.3
<b>TOTAL</b>	<b>2112</b>	<b>100</b>
<b>Teacher Experience (In years)</b>		
<1	44	2.1
2-5	179	8.5
6-9	1039	49.2
10-14	218	10.3
15-19	150	7.1
20-24	163	7.7
25-29	249	11.8
30-35	70	3.3
<b>TOTAL</b>	<b>2112</b>	<b>100</b>
<b>Teachers Age (In years)</b>		
18-23	49	2.3
24-29	203	9.6
30-34	1071	50.7
35-39	236	11.2
40-44	135	6.4
45-49	139	6.6
50-54	192	9.1
55-60	87	4.1
<b>TOTAL</b>	<b>2112</b>	<b>100</b>
<b>Teachers' Load (lessons of 40 minutes)</b>		
6-10	118	5.6
11-15	146	6.9
16-20	1092	51.7
21-24	499	23.6
25-29	156	7.4
30-35	191	4.8
<b>Total</b>	<b>2112</b>	<b>100</b>

To establish the influence of the teacher factors on K.C.S.E performance statistical analyses in the form of Pearson's moment correlation were carried out. Table 4.13 shows the relationship between teacher factors and students' academic performance in K.C.S.E

**Table 4.13: Relationship between Teacher Factors and Students' Academic Performance**

Teacher Factors	Pearson's r	Student Academic Performance in KCSE
		.783
	Sig (2-tailed)	.000
	N	176

From Table 4.13 it can be noted that there was a strong positive relationship between teacher factors and student academic performance ( $r = .783$ ,  $N=176$  and  $p < .05$ ). The relationship between teacher factors and students academic performance was significant. The null hypothesis was therefore rejected. This means that teacher factors enhanced student academic performance in K.C.S.E.

To establish the relationship between student factors and teachers academic performance individual teachers factors, Pearson's r was computed. The results were as shown in Table 4.14.

**Table 4.14: Relationship Between Individual Teacher Factors and Students' Academic Performance (n = 2112)**

Teacher Factors	Student Academic Performance	
<b>Teacher Qualification</b>		
X <sub>1</sub> M.ED	r	.546
	P	.000
	n	218
X <sub>2</sub> B.ED	r	.700
	P	.000
	n	1157
X <sub>3</sub> Dip. ED	r	-.456
	P	.000
	n	372
X <sub>4</sub> Undergraduate	r	-.672
	P	.000
	n	365
<b>Teaching Experience</b>	r	.637
	P	.000
	n	2112
X <sub>5</sub> Teacher's Age	r	.681
	P	.000
	n	2112
X <sub>6</sub> Teacher's load	r	-.214
	P	0.004
	n	2112
<b>r-</b> Pearson correlation coefficient <b>p-</b> Calculated critical Value      n –sample size		

In analyzing the relationship between teacher factors and performance in K.C.S.E in Kakamega County several meaningful findings were obtained . Results in Table 4.14 show that a positive but moderate relationship existed between teachers who were holders of the Masters degree and students academic performance in KCSE (r = .546). The



relationship was significant ( $P < .05$ ) The coefficient of determination, that is  $R^2$  was .298 meaning that teachers who were holders of a masters degree accounted for 29.8% of the variation in KCSE performance This means that teachers who were holders of the Master degree moderately influenced performance in KCSE. Other factors were also responsible such as capacity of the students and availability of revision material. Interview findings indicated that although teachers who were holders of the Masters degree were competent and effective in class often they were unavailable in school. In the interview with the deputy principals one of them observed that “such teachers are often absent from school” as some had taken on part time teaching in colleges and universities. In the interview with the CQASO he observed that many teachers who were holders of the Masters Degree often seek for transfers to schools near or accessible to universities and colleges where they can take up part-time teaching. The implication of this is that the teachers are not fully available at their work stations thereby unable to fully assist their students achieve their best in K.C.S.E.

Fatai (2005) in a study titled ‘Causes Implications and Solutions in Examination Mal-Practices in Ilorin East Local Government Secondary Schools’ observed that teachers who are employed to teach students should be dedicated and serve as role models in matters of punctuality , integrity and accountability. Without these traits therefore the teachers are likely to impact less upon the excellence of students in K.C.S.E even if they are qualified. Nyabuto (2007) in a book titled ‘Grade Repetition in Kenyan Primary Schools. Issues of Learning Disabilities’ established that absenteeism among teachers contributes immensely to learners’ poor performance , a phenomena that makes teachers not to cover

the syllabus adequately. Anyiin (1998) in a study titled 'Examination Malpractice in Benue State Schools: The Way Forward' concurs, submitting that non coverage of prescribed syllabuses due to their extensiveness and the general nonchalant attitude of teachers towards teaching was among the fundamental causes of examination irregularities in Nigeria's Educational system. The argument here is that if the syllabus is not covered adequately, pupils are likely to be examined in content they did not fully cover and comprehend, which is likely to lead poor performance. There is therefore need to enforce the requirements for teachers to be available in school throughout so as to add value to the students. Further, measures should be taken to motivate teachers who have pursued further studies in order for them to have job satisfaction in their jobs in schools without always looking out for better job opportunities that will see them exit the teaching profession.

Further, results in Table 4.14 show a positive and strong relationship between teachers who are holders of the Bachelors of Education degree and KCSE performance in their schools ( $r = .700$ ). This relationship was significant ( $P < .05$ ). The coefficient of determination, that is  $R^2$  was 0.49 meaning that teachers who were holders of a Bachelors degree accounted for 49% of the variation in K.C.S.E performance. This means that teachers who are holders of the Bachelor of Education degree strongly and significantly influence performance in K.C.S.E. In the interview with the CQASO he confirmed that the better staffed a school was with graduate teachers, the better the school performed in KCSE. This he attributed to their competence and adequate training.

From the interviews with the deputy principals, a deputy principal of a school that excelled in KCSE stated that only teachers who were holders of a Bachelor of Education degree and above were hired to teach in the school, even by the board of management (B.O.M). In a different school that posted poor results at KCSE a deputy principal remarked that the school faced a serious staff shortage. However due to the low enrolment of students in the school was unable to hire graduate teachers who expected to be paid high salaries. Instead they were forced to hire undergraduates who in the end failed to adequately prepare the candidates for the national examination thus contributing to poor results at K.C.S.E. From the FGDs the students described the graduate as competent, having good mastery of content and delivered lessons in an interesting way' in a different FGD the students deserved that graduate teachers were always available in school and therefore could easily be reached for consultation thus assisting them to make good progress in class. These findings concur with those of Fatai (2005) who concluded that only teachers who are qualified, certificated, competent and of good moral standing need to be employed to teach students. Similarly, Bruce et al. (1983) in a book 'The Structure of School Improvement' acknowledged that a knowledgeable teacher is one who know what to teach and has some ideas about how to do it. This can only be achieved by going through the necessary training. The findings this study that indicated a trained graduate as having a significant positive influence upon KCSE outcomes further agree with those of Rosner (1985) in a book 'Helping Children Overcome Learning Difficulties' who established that a knowledgeable teacher is constantly looking for better, more effective methods of teaching thus enabling them to add value to their students. Correspondingly, Calvo et. al.(2000) in a study titled 'Factors Affecting Students' Experiences' established that

supportive teachers and their ability to explain clearly were the most influential factors that impacted students' satisfaction. This ability can only come about through proper training. It is therefore evident that effort needs to be made to ensure that schools are staffed with graduate teachers. Extra effort needs to be made by schools to supplement the Teachers service commission (TSC) staffing policy to ensure that graduate are available in school to prepare students for national examinations.

It can also be observed from Table 4.14 that teachers who are holders of the Diploma certificate exhibited a moderate relationship with K.C.S.E performance in their schools. This relationship was however negative ( $r = -.456$ ). The relationship was also significant ( $P < .05$ ). The coefficient of determination that is  $R^2$  was .208 meaning that teachers who were holders of the Diploma Certificate accounted for 20.8% of the variation in KCSE performance. This means that teachers who were holders of Diploma certificate performed below par in comparison to their B.Ed counterparts. In the interview with the deputy principals one of them remarked, "they often suffer from inferiority complex and lack confidence in their interactions with the students"

A different deputy principal observed that the holders of the Diploma certificate has a problem with influence the KCSE outcomes of their students. These findings concur with those of Council for Education Policy, Research and Improvement (2003) in a study titled 'Florida Teachers and the Teaching Profession' which established that the most important factor affecting the quality of education in the individual teacher in the classroom. This therefore implies that if the individual teacher lacks subject content and self-confidence

this will certainly affect their delivery in class. It is therefore crucial to re-examine the suitability of having the Diploma holders preparing students for national examinations.

Findings in Table 4.14 also showed a moderate but negative relationship between the undergraduate teachers and performance in K.C.S.E ( $r = -.672$ ). This relationship was significant ( $P < .05$ ). The coefficient of determination, that is  $R^2$  was .452 meaning that undergraduate teachers accounted for 45.2% of the variation in KCSE performance. This means that the undergraduate teachers decreased students' performance in K.C.S.E. This could be attributed to the fact that these teachers had not undergone training and were therefore ill-prepared to teach. The interview findings correspond with the findings of this study. In the interview with the CQASO he concurred that schools that hired undergraduates often performed poorly in national examinations. This could be attributed to the fact that the teachers failed to adequately prepare the students for examinations. His views were echoed by the deputy principals in their interviews. One deputy principal observed that most of the undergraduates has few teaching skills and lacked content in the areas they handled. They therefore added little value to the students they taught. Another deputy principal observed. 'these undergraduate are usually young, some even being age mates of the very students they taught. They therefore often lacked command in class and were also poor in communication skills.'

From the FGDs the students observed that most of the undergraduates were merely like their peers and therefore lacked seriousness. A different student observed that these teachers were often unable to answer questions asked the students and some even

skipped topics they didn't understand in their respective subject areas. This disadvantaged the students causing them to perform poorly in exams.

The findings from the FGDs concur with those of Council for Education Policy , Research and Improvement (2003) which observed that the importance of good teaching to the academic success of students is intuitively obvious to any parent. Calvo et. al (2000) echo these findings concluding that supportive teachers and their ability to explain clearly were the most influential factors that impacted students' satisfaction. Similarly EFA (2005) in a study titled ' Understanding Education Quality' observed that whether parents send their children to school at all is likely to depend on judgments they make about the quality teaching and learning provided- upon whether attending schools is worth the time and cost for their children and themselves. The implication of this is that parents are likely to check on the staffing of a school before sending their children to any given school. Students are also able to tell which teacher delivers to their satisfaction and may quietly demand that those that do not deliver stay out of their classes. It is therefore vital for school administrators to ensure that only the qualified teacher is entrusted with the all-important assignment of preparing students for national examinations.

It can be established further from Table 4.14 that there was a moderate positive relationship between teaching experience and K.C.S.E performance ( $r = .637$ ). The relationship was significant ( $P < .05$ ). The coefficient of determination, that is  $R^2$  was .406 meaning that teaching experience accounted for 40.6% of the variation in KCSE performance. This means that the longer the teaching experience a teacher had the more significantly they would impact upon the K.C.S.E performance of their students. This

could be attributed to the fact that these were seasoned teachers who had interacted with different types of students and were therefore able to effectively apply teaching methods that would suit individual students. They are also likely to have benefited from regular in servicing and were therefore upto date with the current trends in their respective teaching areas.

Findings from the interview with the CQASO corresponded with the findings in Table 4.9. He acknowledged that the more experienced a teacher was the more conversant they were with teaching trends and thus much better placed to add value to their students. He added that schools that were staffed more experienced teachers performed better in examinations. Conversely, schools that were staffed with more teachers with little teaching experience performed poorly in a comparison to the latter.

In the interview with the deputy principals the same sentiments were echoed. One deputy principal observed that teachers with little teaching experience were often just from college and still needed a lot of guidance and direction on the best strategies to apply in order to maximize their output from the students. The teachers with longer teaching experience on the other hand were described as “competent , had better mastery of content and possessed a variety of skills that enabled them to assist students perform well in examinations.”

These views concur with those of Odumbe (2012) in a study titled ‘Factors Influencing Student Academic Performance in day Secondary Schools in Migori District’ who established that high teacher experience was one of the factors that enhance performance

in day secondary schools. Ong'ele (2007) and Omariba (2003) are in agreement, concluding that teachers with more teaching experience performed better in actual classroom teaching than those with less teaching experience. This can be explained by the fact that experienced teachers have a mastery of subject areas and its scope, are well versed in examination techniques and take keen interest in revision and examination techniques. Rosner (1985) concurs, observation that teacher experience varied among teachers and had an effect on what happens in the classroom when a teacher interacts with her students. It is therefore one characteristic to consider when teaching assignments are determined. These findings agree with those of Maende (2012) in a study 'Influence of Professional Development on Teacher Effectiveness in Public Secondary Schools in Mumias District' who established that teacher professional development has high influence on student motivation, teaching methodologies, communication skills, organization of content and planning of lessons and very high influence on students participation during lessons, teacher confidence and knowledge of student matter.

Bruce et al (1983) however are of different opinion, stating that however experienced the teachers are, without a high quality of effort other factors alone make little difference from the findings of this study it can be observed that teaching experience plays a crucial role in the quality of student outcomes in national examinations.

Although other factors such as qualification are also important, years of experience in handling examination classes, interacting with students and exposure to varying teaching and examination techniques give the experienced teacher an upper hand in being able to deliver better quality outcomes at K.C.S.E than their less – experienced counterparts.



Results in Table 4.14 further show a moderate positive relationship between a teacher's age and K.C.S.E performance ( $r = .681$ ). The relationship was significant ( $p < .05$ ). The coefficient of determination, that is  $R^2$  was .464 meaning that a teacher's age accounted for 46.4% of the variation in KCSE performance. This means that the older a teacher was the more significantly they would impact upon the K.C.S.E performance of their students. This can be explained by the fact that the older a teacher is, the older they are likely to be in the profession. This would therefore translate into a longer teaching experience which has been shown to have a positive influence upon student's performance in K.C.S.E. This is attributed to the fact long teaching experience comes with exposure to improved teaching methods, more in servicing programs as well as increased feedback from quality assurance and standards teams.

In the interview with the CQASO he observed that the other teachers also tended to be those with longer teaching experience. He added that the older teachers had been observed as having better people skills that enabled them to engage students in activities that maximized their potential.

Interviews with the deputy principals produced similar results. One deputy principal agreed that the older teachers had longer teaching experience and this enabled them to employ varied and most appropriate teaching methods that would enable students to perform well in examinations. In a different school the deputy principal observed that most of the older teachers had the added advantage of having taught in more than one school and therefore brought on board combined strategies that would yield excellent results for the students at K.C.S.E.

These results concur with the findings of Omariba (2003) in a study titled ‘Factors that Contribute to Performance in Public Examinations in Rural Secondary Schools in Kisii District’ who established that the experienced teachers, who are often the older teachers, have a mastery of subject areas and its scope, are well versed in examination techniques’, take keen interest in revision and examination techniques. From the findings of older teachers bring along the added advantage of experience which translates into time- tested strategies that would yield optimum results for candidates at K.C.S.E.

However it is also important to consider the down side of the older teachers who may also be conservative and not willing to embrace change. They may also be unwilling to try new and more effective teaching methods which would guarantee better results for their students. Age would therefore be an advantage only if the older teachers were flexible enough to combine time- tested techniques with modern, effective and efficient teaching methods that can guarantee better results for the students.

Finally from Table 4.14 it can be observed that there was a weak negative relationship between the teaching load a teacher had and K.C.S.E performance ( $r=-.214$ ). This relationship was significant ( $p<.05$ ). The coefficient of determination, that is  $R^2$  was .045 meaning that a teacher’s workload accounted for 4.5% of the variation in KCSE performance. This means that the greater the teaching load a teacher had, the less likely they were to assist students achieve quality grades at K.C.S.E.

Interview findings indicated that high teaching loads impeded a teacher’s ability to assist students obtain quality grades at K.C.S.E. In the interview with the CQASO he observed that school that were understaffed and where teachers had high examinations and K.C.S.E in

particular. This he attributed to the fact that the teachers were so busy attending to many other classes that they had time to spare for the candidates who needed individualized attention. On the contrary schools that were adequately staffed and where teachers had low teaching loads had students performing well in K.C.S.E. This was due to the fact that the teachers had more time to spare for the candidates and were therefore able to devote time to address individual weaknesses of students, a fact that guaranteed good results for the candidates.

In the interview with the deputy principals one of them observed that teachers who had high teaching loads had little time to mark students assignments and were those not able to address individual weaknesses of students. This disadvantaged the students causing them to perform poorly in examinations and especially K.C.S.E.

A different deputy principal commenting on teachers with low teaching loads observed that such teachers were often available to help students during extra time, were able to supervise group work as well as avail time for consultation from students. All these strategies enabled the teacher to address individual areas of weaknesses of students and thus enabled the students perform well in examinations and particularly K.C.S.E. The findings from the interview concur with the findings of the literature reviewed. Sichambo (2011) in a study titled 'Impact of Burnout on Secondary School Teachers' Performance' advanced that secondary school teachers, apart from the classroom teaching had other responsibilities and a number of remedial lessons, and large classes to handle and a lot of prayer work which were causing moderate burnout thus performance had moderately slowed down. Calvo et al (2000) being in agreement established that reducing class size and providing more opportunities for

teachers professional development may improve students' learning experience. Mayeku (2009) further concurs, establishing that inadequate staffing leads to heavy burdening of the staff and this has a great impact on the quality of the services they offer as a result affecting the quality of the programmes. Odumbe (2012) also conducted that low teacher pupil ratio was one of the factors that enhanced performance in day secondary schools. It is therefore evident that effort needs to be made to reduce the efficiency and productivity. This will ensure quality outputs from students in terms of quality graded at K.C.S.E. further staffing policies need to give preference to the low- staffed school in an attempt to improve performance in such schools.

The teacher factors were further subjected to stepwise regression analysis to determine the actual teacher factors that influence students academic performance. The results were as shown in Table 4.15.

**Table 4.15: Multiple Regressions Analysis for the Influence of Teacher Factors on Students' Academic Performance**

Model	Unstandardized coefficients		Standardized Beta	T	Sig
	B	Std. Error			
(constant)	-.751	3.422		-.219	.827
Teacher qualification (M.ED)	0.000	0.021	0.001	0.024	.981
Teacher qualification (B.ED)	0.344	0.068	0.383	5.032	.000
Teacher Qualification (Dip. Ed)	-0.026	0.054	-0.027	-0.477	.634
Teacher qualification (undergraduate)	-0.305	0.102	- 0.286	-2.994	.003
Teaching experience	-0.090	0.141	- 0.155	-0.637	.525
Teacher's age	0.187	0.131	0.382	1.435	.153
Teaching workload	0.132	0.74	0.098	1.778	0.077

a. Dependant Variable: 2014 Mean Score Regression Equation  $Y=a+\beta_1 + \beta_2 +$

In stepwise regression analysis independent variables were added into the equation model one by one and at each stage, any variable which was already included in the model but whose extra sum of squares ( $R^2$ ) contribution had declined to a non-significant level was eliminated. Selection stopped when all non-significant variables were eliminated and all variables that were significant were retained.

It can be observed from Table 4.15 that out of seven variables, only two were statistically significant at 0.05 level. The variable of teacher qualification (B.ED) was significant as the calculated p-value of 0.000 was less than the set p-value of 0.05 indicating that teachers who were holders of the B.ED degree contributed positively to students performance in K.C.S.E. This means that an increase by one percent of teachers with a B.ED degree improved students academic performance in K.C.S.E by 0.344 percent as signified by a coefficient of .344. This means that teachers who were holders of the B.ED degree added value to their students and eventually assisted them to score high grades at K.C.S.E .

This can be attributed to the fact that these teachers undergo training that equips them with the necessary skills and knowledge as well as teaching methodologies that enable them to identify the needs of their position to add value to their students. These findings are in agreement with those of Posner (1992) in a book 'Analyzing the Curriculum' who observed that teachers subject matter knowledge and teaching skills play a significant role in determining success of a new curriculum.

The knowledge and skills they acquire during training also builds confidence in the teachers and gives them a sense of efficacy. This sense of efficacy combined with high expectations

for one's students communicates powerfully to students that they can learn and that they will learn (Bruce et al, 1983). An analysis of documents in the sampled schools indicated that school which were adequately staffed with B.E.D degree holders performed well in the K.C.S.E exam. Because these teachers have a good grasp of content in their subject areas they are better placed to cover the syllabus in good time as well as engage their students in thorough revision. However it is essential that these teachers work in an environment that enables them achieve their best.

Having high teaching loads for example can be an impediment to achieving quality grades. The students should also be available to be taught as long absence of students from school will hamper the effort of the qualified teacher to achieve quality grades.

The variable of teacher qualification (undergraduate) was also significant as the calculated p-value of 0.003 was less than the set p-value of 0.05. The influence of teacher qualification (undergraduate) on K.C.S.E performance was however negative. This means that an increase by one percent of the teacher qualification (undergraduate) reduced performance in K.C.S.E by 0.305 percent as signified by a coefficient of  $-0.305$ . This can be explained by the fact that these teachers were still undergoing and were therefore not yet equipped with all the necessary knowledge and skills required for the profession.

Analysis of available documents indicated that the starting schools that were understaffed by TSC teachers had high numbers of undergraduate teachers. These schools eventually performed poorly in K.C.S.E compared to the established schools which were well – staffed

with qualified TSC teachers and never took on board the undergraduate teachers. These finding concur with those of Fatai (2005) who observed that only teachers who are qualified, certificated and competent need to be employed to teach students. It is clear therefore that although the undergraduate teachers may temporally fill the void in the staffing of the starting school they may in the long term do more harm than good if effort is not made to replace them with the qualified teachers. It is also paramount to ensure equity is staffing so that no students are disadvantaged.

Teacher absenteeism was established by Nakhanu (2009) as one of the factors that affect syllabus coverage. Similarly Anyiin (1998) submitted that non- chalant attitude of teachers towards teaching was among the fundamental causes of examination irregularities in Nigeria's educational system. The argument here is that if the syllabus is not covered adequately, students are likely to be examined in content they did not fully cover and comprehend, which is likely to lead to poor performance. Effort needs to be made therefore to encourage teachers to be available in school so as to increase their contact hours with the students which would eventually translate into better quality grades and performance at K.C.S.E. The other factors, that is teacher qualification (M.ED), teacher qualification (Diploma), teacher experience, teacher's age and teaching workload were not significant in influencing students' performance at KCSE. Regression model is  $Y = -.751 + .344X_1 - .305X_2$

To determine the influence of teacher factors on students' academic performance, regression analysis was computed and the results were as shown in Table 4.16.

**Table 4.16: Regression Analysis of the Influence of Teacher Factors on Students' Academic Performance**

<b>Model</b>	<b>R</b>	<b>R square</b>	<b>Adjusted R square</b>	<b>Std. Error of the estimate</b>
1	.783 <sup>a</sup>	.613	.594	1.08061

a. Predictor: (constant), Teacher Qualification, B.ED, Teacher Qualification (Undergraduate)

From Table 4.16 it can be noted that teacher factors accounted for 59.4% of students' academic performance in K.C.S.E as signified by coefficient .594. This means that 40.6% of the students' academic performance was as a result of other factors that were not subjects of this study. The finding that teacher factors moderately influence the performance of students in K.C.S.E concurred with Bruce et al (1983) findings that however experienced the teachers, without a high quality of effort other factors alone make little difference.

An analysis of available documents such as class registers and roll- call sheets from the deputy principal's offices indicated that distances covered by students to and from school for day schools also affected their performance. Similarly lack of basic necessities such as sanitary towels for girls that caused them to be away from school for a given number of days also negatively affected their performance. Overall, it can be observed that teachers who were holders of the Bachelors degree strongly and positively influenced performance in KCSE. In contrast undergraduate teachers had a significant but negative influence upon KCSE performance. The age and experience of a teacher, which are related also significantly influenced performance in KCSE. It be deduced therefore that the older a teacher is, the



longer their experience and this puts them in a favourable position to be able to influence positively performance of students in KCSE.

The data was also subjected to ANOVA to establish whether teacher factors were significant predictors of K.C.S.E performance. The results were as shown in Table 4.17.

**Table 4.17: ANOVA Test for Teacher Factors and Students' Academic Performance.**

<b>Model</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	307.193	2	38.399	32.884	.000b
Residual	193.843	174	1.168		
Total	501.036	176			

a. Dependent Variable: 2014 mean score

b. Predictors (constant) Teacher Qualification (B.ED), Teacher Qualification, (Undergraduate)

From Table 4.17 it can be observed that Teacher Qualification (B.ED) and teacher qualification (Undergraduate) were significant predictors of students performance in K.C.S.E as indicated by the calculated p- value of 0.000 which was less than the set critical p- value of 0.05. ( $F(2,174) = 32.884, p < .05$ ).

#### 4.7 Influence of Principal Factors on Students' Academic Performance in Secondary Education

The study sought to establish the influence of principal factors on the performance of students academic performance. To accomplish this objective principal factors established in Tables 4.2 and 4.3 were correlated with students academic performance Table 4.6. The results were as shown in Table 4.18.

**Table 4.18: Relationship between Principals Factors and Students' Academic Performance**

		<b>Student Academic Performance in KCSE</b>
<b>Principals Factors</b>	Pearson's r	.261
	Sig (2-tailed)	.000
	N	176

From Table 4.18 it can be noted that there was a weak positive relationship between principals factors and student academic performance ( $r=.261$ ,  $N=176$  and  $p<.05$ ). The relationship was significant. The null hypothesis was therefore rejected. This means that principals factors enhanced student academic performance in K.C.S.E

To establish the relationship between the individual principals factors, and students academic performance , Pearson's r was computed. The results were as shown in Table 4.19.

**Table 4.19: Relationship between Principal Factors and Students' Academic Performance (n=176)**

Principal factors		Student academic Performance	
X <sub>1</sub>	Qualification	r	.096
		p	.210
		n	176
X <sub>2</sub>	Age	r	-.079
		p	.302
		n	176
X <sub>3</sub>	Experience in the current station	r	.119
		p	.119
		n	176
X <sub>4</sub>	Experience in other schools	r	.301
		p	.810
		n	176
X <sub>5</sub>	Work load	r	-.226
		p	.003
		n	176

**r-** Pearson correlation coefficient      **p-** Calculated critical Value      **n** –sample size

Results in Table 4.19 show that a negative and weak relationship existed between the principal's workload and K.C.S.E performance ( $r = -.226$ ). The relationship was significant as the calculated p-value of 0.003 was less than the set P-value of 0.05. This means that increase in principals workloads reduced students academic performance in KCSE. The other factors (qualification, age and experience) were not significant in influencing performance of students in K.C.S.E.

In the interview with the CQASO he observed that principals often had many duties and responsibilities and had many meetings to attend. Having high workloads therefore meant

that often their classes would be unattended thus negatively influencing performance of students in their subject areas and consequently in K.C.S.E. In an interview with one of the deputy principals she indicated that the principal of her school was also the regional chairperson of the Kenya Secondary schools Heads Association (KESSHA). This meant that he was often away from school attending to other responsibilities and had little time to attend to his lessons. In a different school the deputy principal remarked that the principal only taught form one and two, and even then with the assistance of other teachers as she had many other duties to attend to. Teaching a candidate class would therefore greatly disadvantage her class. Document analysis in most of the sampled schools indicated that most principals have an average just one class that they actively taught implying that their contribution to K.C.S.E performance through active teaching was minimal.

It is evident that taking on a high workload would compromise the ability of the principal to manage greater administrative responsibilities. Alberta Education (2012) concluded that the principal's role has become more focused on the management of teaching and learning within the school similarly Chevedza et al (2012) in a study titled 'Factors that Militate Against the Provision of Quality Education at Grade Seven Level in Gokwe South Central Cluster of Zimbabwe' established that school heads do not have ample time to conduct regular supervision duties due to high demanding administrative chores at school. They recommended that administrative routines of heads such as meetings should be reduced or shared to allow heads ample time for regular supervision in schools. It is clear that taking on high workloads would erode the efficiency of the principal both in class and in other administrative chores. However taking on a minimum load would enable them offer the

necessary instructional, educational and organizational leadership that is essential. Principals should also consider delegating some of their classes to members of their departments in order to ensure that students in their classes are not disadvantaged.

The principal factors were further subjected to stepwise regression analysis to determine the principal factors that influenced students academic performance. The results were as shown in Table 4.20.

**Table 4.20: Multiple Regression Analysis for the Influence of Principal Factors on Students' Academic Performance**

Model	Unstandardized coefficients		Standardized coefficients	t	Sig
	B	Std. Error	Beta		
(constant)	3.993	.918		4.349	.000
X <sub>1</sub> Experience in current station	.167	.046	.209	3.661	.000
X <sub>2</sub> Experience in other Schools	.403	.046	.530	8.745	.000
X <sub>3</sub> Work load	-.161	.046	-.200	-3.477	.001

a. Dependant Variable: 2014 Mean Score      Regression Equation  $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 - \beta_3X_3$

In stepwise regression analysis independent variables were added into the equation model one by one and at each stage, any variable which was already included in the model but whose extra sum of squares ( $R^2$ ) contribution had declined to a non-significant level was eliminated. Selection stopped when all non-significant variables were eliminated and all variables that were significant were retained.

From Table 4.20 it can be observed that principals' experience in their current stations positively influenced students' academic performance. This means that an increase by one percent of principal's experience in his or her current stations improved students' academic performance in K.C.S.E by 0.167 percent as signified by a coefficient of 0.167. Principals' experience in other schools enhanced students' academic performance in KCSE. That is, principals' experience in other schools for every one percent increase in those schools enhanced their students' academic performance by 0.403 percent as signified by a coefficient of 0.403. These findings indicate that the longer a principal had served as a principal the more value he/she added to students' performance in K.C.S.E. What this means is that, experience gained over the years by principals were invaluable in enhancement of students' academic performance.

These findings concur with document analysis data which showed that there was a marked improvement in K.C.S.E performance in schools where the same principals had served for a considerable number of years. Clark et al (2009) in a study 'School Principals and School Performance' who showed that a positive relationship existed between principal experience and school performance. They further established that policies which cause principals to leave their posts early will be costly, and the tendency for less advantaged schools to be run by less experienced principals could exacerbate educational inequality.

It is therefore evident that the experience that principals gain over the years is invaluable in steering schools to greater academic achievement. This can be attributed to the fact that they gain further insights into human resource management, coordination of teaching and learning

processes as well as mobilizing resources geared towards quality achievement in their schools. The seminars and capacity building programs which they attend also enable them to keep abreast with the current trends in education causing them to adopt better and more efficient strategies for quality achievement. Therefore the notion that starting schools should be headed by less experienced principals should be avoided. Instead the experienced principals should start these schools as they have better knowledge of what works and what doesn't. They would see starting schools post better results than is the trend currently where starting schools post poor results whereas the established schools boast of quality performance of their candidates at K.C.S.E.

The variable of workload was also significant the calculated p-value of 0.001 was less than the set p-value of 0.05 the influence of the principal's workload upon K.C.S.E performance was however negative. This means that an increase in one unit of the principal's workload will decrease performance in K.C.S.E by 0.161 units as signified by co-efficient of -0.161. These findings concur with document analysis data which showed that principals often missed to teach their assigned classes due to other numerous responsibilities such as attending meetings and seminars and performing administrative duties. Because of these factors their classes often lagged behind in syllabus coverage disadvantaging their students and causing them to perform poorly in exams. However, since instructional and curriculum leadership are important in a school it would be in the best interest of the child for another teacher to be seconded to the class taught by the principal to handle it whenever the principal is engaged. This would ensure quality outputs by students in K.C.S.E.

Regression model is  $Y = 3.993 + .167X_1 + .403X_2 - .161X_3$

To determine the influence of principals factors on student academic performance stepwise regression analysis was computed and the results were as shown in Table 4.21.

**Table 4.21: Regression Analysis of the Influence of Principal Factors on Students' Academic Performance.**

Model	R	R square	Adjusted R square	Std. Error of the estimate
1	.261 <sup>a</sup>	.068	.040	4.94713

a. Predictor: (constant), workload, Experience in other schools, Experience in current station

From Table 4.21 it can be noted that principals factors accounted for 4% of the students' academic performance in K.C.S.E as signified by the coefficient adjusted R square .040. This means that 96% of the students' performance was as a result of other factors that were not subjects of this study. The finding that principals factors do not strongly influence the performance of students in K.C.S.E concurred with Dhuey and Smith's (2010) findings that principals' experience does not exert a significant influence on student performance.

Further, the fact that principal factors accounted for little of the influence on K.C.S.E performance can be attributed to the fact that classroom teaching and student participation in the learning process contribute immensely to the quality outcomes at K.C.S.E. Providing a conducive environment for teaching and learning processes would still accomplish the goal of achieving quality education in secondary schools.



The data was also subjected to ANOVA to establish whether principal factors were significant predictors of K.C.S.E performance. The results were as show in Table 4.22.

**Table 4.22: ANOVA test for Principal Factors and Students’ Academic Performance**

<b>Model</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	298.101	3	59.620	2.436	.037
Residual	4087.276	173	24.474		
Total	4385.276	176			

- a. Dependent variable:2014 mean score
- b. Predictors (constant), Qualification, age, experience and workload).

From Table 4.22 it can be observed that principal factors were significant predictors of K.C.S.E performance as indicated by the calculated p-value of 0.037 which was less than the set critical p-value of 0.05. ( $F(3, 173) = 2.436, p < .05$ ).

#### **4.8 Influence of School Factors on Students’ Academic Performance in Secondary Education**

The study sought to establish the influence of various school factors on the performance of candidates in the K.C.S.E examination. These factors were: libraries, classrooms, playgrounds, desks, latrines, laboratories, electricity, staff houses and source of water. To accomplish this objective school factors were established and the data tabulated in form of descriptive statistics (Table 4.23).

**Table 4.23: School Factors (2011 -2014)**

<b>School Factors</b>	<b>Frequency/ Quantity (K/Watts), Litres)</b>
Libraries	114
Classrooms	1172
Playgrounds	538
Desks	68779
Latrines	3370
Laboratories	430
Electricity (K/Watts)	7760
Staff house	322
Source of water (litres)	32295

Correlation analysis between the school factors and K.C.S.E performance was done using data from Table 4.23. Table 4.24 shows the relationship between school factors and students' academic performance in K.C.S.E.

**Table 4.24: Relationship between School Factors and Students' Academic Performance**

<b>School Factors</b>	<b>Student Academic Performance in KCSE</b>
Pearson's r	.867
Sig (2-tailed)	.000
N	176

From Table 4.24 it can be noted that there was a strong positive relationship between school factors and student academic performance ( $r = .867$ ,  $N = 176$  and  $p < .05$ ). The relationship was significant. The null hypothesis was therefore rejected. This means that school factors enhanced student academic performance in K.C.S.E.

To establish the influence of individual school factors, the school factors were correlated with student performance. The results were as shown in Table 4.25.

**Table 4.25: Relationship between School Factors and Students' Academic Performance (n=176)**

School Factors			Students academic Performance
X <sub>1</sub>	Libraries	r	.746
		p	.000
		n	176
X <sub>2</sub>	Classrooms	r	.718
		p	.000
		n	176
X <sub>3</sub>	Playgrounds	r	.031
		p	.684
		n	176
X <sub>4</sub>	Desks	r	.366
		p	.000
		n	176
X <sub>5</sub>	Latrines	r	.615
		p	.000
		n	176
X <sub>6</sub>	Laboratories	r	.818
		p	.000
		n	176
X <sub>7</sub>	Electricity	r	.665
		p	.000
		n	176
X <sub>8</sub>	Staff houses	r	.709
		p	.000
		n	176
X <sub>9</sub>	Source of water	r	.484
		p	.000
		n	176
<b>r-</b> Pearson correlation coefficient		<b>p-</b> Calculated critical Value	<b>n</b> –sample size

In analyzing the relationships between school factors and performance in KCSE in Kakamega County several meaningful findings were obtained. Results in Table 4.25 show that a positive and strong relationship existed between availability of libraries and KCSE performance ( $r=0.746$ ). The relationship was significant ( $P<0.05$ ). This means that the availability of libraries strongly influenced good performance for candidates at KCSE. The coefficient of determination, that is  $R^2$  was .557 meaning that availability of libraries accounted for 55.7% of the variation in KCSE performance. Interview findings indicated that the availability of libraries played a significant role in enhancing KCSE performance. In the interview with the CQASO he observed that most of the schools that performed well in KCSE had well-stocked libraries. He added that schools that did not perform well in KCSE lacked library facilities and were deficient in revision materials and reference books.

In an interview with a deputy principal of a school that performed well he said. “What we have is a make-shift library but it is well-stocked with revision material and reference books. There is also a reading area where students can read from. It is very popular among the candidates” A different deputy principal observed that “since the CDF constructed the library for our school the reading culture of the students has really improved and so have our KCSE results.” In one FGD of a school that excelled in KCSE a student said “most teachers give us assignments which have to be researched from the reference books in the library. This always helps us to do a lot of revision in the process and has helped us to constantly do well in exams.”

In contrast, a student in a FGD in a school that did not perform well lamented, “most students in this school are from poor families and are not able to buy revision materials by themselves. The fact that we don’t have a library disadvantages us further..... we end up not doing well in exams.” A student in a FGD in a school that had no library said they were forced to borrow books from their friends in neighbouring schools to use in revision and discussion groups. These findings concur with the findings in the literature review. Inter-America Development Bank (2008) in a study ‘The Quality of Education in Argentina’ established that students with low Socio-Economic Status were condemned to have a spoor quality of education occasioned by lack of resource. Nyabuto (2007) further observed that quality learning takes place in quality environments where quality of physical facilities is part and parcel of the learning environment.

It can be observed therefore that provision of library services would go a long way in enhancing the quality of education provided to students and especially with regard to performance in the national examinations. What this study further established was that library facilities were not wholly dependent on the room or building. Rather it has more to do with the available materials that students could access for revision, research and reference. Results from document analysis established various schools that had make-shift libraries but with adequate revision and reference materials that enabled students to perform well in examinations.

Results in Table 4.25 further established that a positive and strong relationship existed between availability of classrooms and KCSE performance ( $r=.718$ ). The relationship was significant ( $P<.05$ ). This means that availability of classrooms strongly influenced good

performance of candidates at KCSE. The coefficient of determination, that is  $R^2$  was .516 meaning that availability of classrooms accounted for 51.6% of the variation in KCSE performance.

Interview findings concur with these findings, in the interview with the CQASO he observed that many schools that performed well in KCSE had adequate classrooms. However in schools where performance was low classrooms were inadequate causing overcrowding and limiting individual attention of students by teachers.

In an interview with a deputy principal of a school that excelled in KCSE she observed that although many parents wished to take their children to the school, the school policy maintained a population of 40 students per class to ensure individualized attention of students by teachers.

In a different school the deputy principal observed that the school was just starting and had inadequate classrooms. Some of their students were therefore forced to learn from the neighbouring primary school. He described the environment there as “disruptive and not conducive to the students.” This in the long run jeopardized the students’ performance in examinations.

In a FGD in a school with inadequate classrooms a student observed “the classes here are so crowded and teachers end up not paying attention to all of us. Some teachers only pay attention to those who sit in front and those who are able to answer questions in class.”

In contrast a student in a FGD of a school that had adequate classrooms affirmed because of the manageable number of students in the classes teachers knew all students by name and were able to effectively supervise group work. This, she said caused students to pay attention

and participate actively in class. The students attributed this to the school's consistent good performance in examinations.

Studies reviewed validate these findings. Simatwa (2007) in a study titled 'Management of Student Discipline in Secondary Schools in Bungoma District' observed that inadequate classrooms caused misbehavior among students a factor that comprises quality of education. Odumbe (2012) also cited classrooms as one of the main physical factors that influenced performance in day secondary schools. Udoh (2011) in a study titled 'Remote Causes and Counseling Implications of Examination Malpractice in Nigeria' correspondingly demonstrated that paucity of educational facilities was a significant remote cause of examination malpractice in Nigeria.

Data from document analysis confirmed that in schools where there was overcrowding in the classes students were more prone to cheat in exams, a culture that was difficult to eradicate and which eventually caused them to perform poorly in national examinations. It can be deduced from the findings of this study that availability of classrooms is an important determinant of quality in schools. The classrooms should not only be available but have a manageable number of students that fosters good teacher-student interaction and contact. Secondary schools should also be started with adequate resources to avoid relying on facilities in neighbouring primary schools as this also has a negative impact on the self-esteem of the students.

Further, results in Table 4.25 established that a weak positive relationship existed between availability of desks and KCSE performance ( $r=.366$ ). The relationship was significant. This means that availability of desks only slightly influenced performance in KCSE and that other

physical factors were more responsible such as libraries and classrooms. The coefficient of determination, that is  $R^2$  was .134 meaning that availability of desks accounted for 13.4% of the variation in KCSE performance.

Interview findings indicated that desks had little influence upon KCSE performance. In the interview with the CQASO he observed that desks did not play a crucial role in influencing KCSE performance as did classrooms and libraries.

In one of the interviews with a deputy principal he observed that desks were a basic necessity for students and all students were availed with one. However since they were mainly used for writing on in class they did not affect much how a student performed in class.

In the FGDs one student commented that desks mainly provided comfort for them while in class. They did not however add much value to how a student performed in class as many of them had alternative places for storing books and other essential such as school bags. One student in a boarding school added that they tended to keep most of their books in the dormitories and only carried books to class which they would need for the day.

In contrast Omariba (2003) in a study titled 'Factors that Contribute to Performance in Public Examinations in Rural Secondary Schools in Kisii District' cited desks as one on the symbols of higher educational quality in schools. It can however be observed that desks do not strongly influence performance of students in KCSE.

Table 4.25 additionally established a moderate positive relationship between availability of latrines and KCSE performance ( $r=.615$ ). The relationship was significant ( $P<.05$ ). This means that availability of latrines moderately influenced performance in KCSE. The



coefficient of determination, that is  $R^2$  was .378 meaning that availability of latrines accounted for 37.8% of the variation in KCSE performance. Interview findings indicated that availability of latrines was especially vital in ensuring that students stay in school. In the interview with the CQASO he affirmed that availability of latrines as well as having the acceptable ratios was vital in ensuring that students were retained in school. In the interview with the deputy principals a deputy principal in a mixed school observed that girls were particularly sensitive to the availability of latrines and were uncomfortable when their privacy was intruded upon. It was therefore essential that the facilities be located in a discreet place, especially away from the boys. A different deputy principal in a boys' school however voiced similar sentiments. Apart from availability he said it was also paramount to ensure that the shutters were secured to ensure privacy. In one of the FGDs one girl in a day school told of occasions when girls failed to come to school due to lack of privacy regarding the latrines. In a different mixed school girls told of constant embarrassments caused by teasing from boys whose toilets were in close proximity to theirs.

These views concur with those of Kithi (2011) in a study titled 'Factors Influencing Utilization of Educational Resources in Public Secondary Schools in Kilifi District' who concluded that where latrines were unfavourable to learning, pupils deserted schools. It is therefore evident that latrines are vital physical facilities and their availability and proper presentation are important in keeping students in school. It is the availability of the students in school as well as their comfort that will ensure the student reap maximum benefits of the teaching and learning processes and eventually obtain quality grades at KCSE.

It can further be observed from Table 4.25 that there existed a strong positive relationship between availability of laboratories and KCSE performance ( $R=.818$ ). The relationship was significant ( $P<.05$ ). This means that availability of laboratories strongly influenced performance in KCSE. The coefficient of determination, that is  $R^2$  was .669 meaning that availability of laboratories accounted for 66.9% of the variation in KCSE performance. Interview findings indicated that availability of laboratories were a major determining factor in performance of KCSE. In the interview with the CQASO he observed that schools that had well-equipped laboratories often performed well in the KCSE examination. Conversely, schools where laboratory facilities were not available often performed poorly in exams. He added that apart from availability, frequency of use of the laboratory facilities was also of great importance. The more the students made use of the laboratories the more likely they were to perform well in exams.

In an interview with a deputy principal of a school that did not perform well in KCSE she lamented the lack of apparatus and chemicals in the laboratory which occasioned the students to miss out on the practical lessons. This she cited as a major contributing factor towards the students' poor performance in KCSE.

In a different school where the laboratories were well-equipped and where students had frequent practical lessons the deputy principal affirmed that students performed well in exams. She said “the fact that our school performs well in the science is what gives us an edge over neighbouring schools that do not perform well in the Sciences.”

In the FGDs one student said, “we rarely go for practical lessons in the laboratory and some of the apparatus and chemicals we only encounter during examinations. This has caused many of us to fear sciences as we always perform poorly in them.” In contrast a student in a school that performed well in exams observed that their frequent laboratory sessions had boosted their confidence in the sciences and as a result they performed well in sciences and consequently in the external examinations.

These findings concur with those of the literature reviewed. Wanja (2012) in a study titled ‘Factors Affecting Quality of Education in Public Day Secondary Schools in Thika- Ruiru Division’ cited inadequate laboratory facilities as one of the major factors affecting academic performance. Similarly Omariba (2003) established that availability of laboratories in schools was one of the symbols of higher educational quality. Correspondingly, Otieno (2012) in a study titled ‘Stakeholders’ Perceptions on Challenges Faced by Headteachers in the Provision of Quality Education in Public Secondary Schools in Nyando District’ concluded that schools that were rated with the best facilities performed well in national examinations.

It is evident from these findings that not just the availability of laboratories but their frequent use spurred students to excel in examinations and especially KCSE. Emphasis therefore needs to be put upon equipping of the laboratories and exposing students to various and frequent sessions of the practical lessons in order to better their chances of excelling in examinations and achieving quality grades.

Results in Table 4.25 further show a moderate positive relationship between availability of electricity and performance in KCSE ( $r=.665$ ). This relationship was a significant ( $P<.05$ ). This means that availability of electricity in school moderately influenced performance in

KCSE. The coefficient of determination, that is  $R^2$  was .442 meaning that availability of electricity accounted for 44.2% of the variation in KCSE performance. Interview findings indicated that availability of electricity in school played only a moderate role in influencing performance of students in KCSE. In the interview with the CQASO he ascertained that availability of electricity did play a role in influencing performance of candidates in KCSE. However he cited a number of schools that did not have electricity but provided a source of light for their students who still performed well in KCSE.

In an interview with a deputy principal of a day school that had no electricity she observed that although there was no electricity in the school the school made effort to provide solar lamps for students to use during early morning prep and in the evenings. The students still manage to perform at par with their counterparts in schools that had electricity. A different deputy principal in a boarding school that had electricity in contract attributed their students' excellent performance to the availability of electricity. He observed that electricity enabled teachers to occupy students during night prep by teaching or revising with them and this enhanced their chances of performing well in KCSE.

The FGDs had similar contrasting views with students in schools that had electricity attributing the success of their students to availability of electricity and those without electric power supply affirming that the most vital aspect was to provide a source of light to enable students carry on with their studies at night. Findings from the literature reviewed however contracted with the findings from the interviews. Otieno (2012) concluded that schools that were rated with the best facilities such as electricity performed well in national examinations. Findings of this study established the influence of availability of electricity upon KCSE

performance as moderate. This implies that performance in KCSE can be influenced by other factors apart from electricity. These may be factors such as early coverage of the prescribed syllabus, teacher-student ratio as well as book-student ratio. Additionally interview findings established that what was essential was for students to be provided with a source of lighting regardless of whether it was electric or solar.

From Table 4.25 it can be further observed that there was a strong positive relationship between availability of staff houses and performance in KCSE ( $r=.709$ ). This relationship was significant ( $P<.05$ ). This means that availability of staff houses strongly and positively influenced performance of student in KCSE. Interview findings indicated that availability of staff houses increased teacher –student contact hours and the opportunities of students to be supervised at any given time. The coefficient of determination, that is  $R^2$  was .503 meaning that availability of staff houses accounted for 50.3% of the variation in KCSE performance.

In the interview with the CQASO he affirmed that schools had availed houses for their teaching staff often had lessons early in the morning and late in the evening. This increased teacher-student contact hours and eventually contributed to the students of those school doing well in KCSE.

In the interview with the deputy principals, a deputy principal of a day school that performed poorly in KCSE lamented the lack of housing for teacher of the school. This he said had impeded the effort of the school to have a make-shift boarding program for the candidates which had been envisioned to improve performance in KCSE. In contrast a deputy principal of a boarding school that had sufficient housing for teachers attributed the good performance

of candidates in KCSE to the availability of teachers for students at odd hours. He said “our lessons begin as early as 6:50a.m. and this enables the teachers to clear the syllabus in good time and embark on serious revision which really assists our students to perform well in KCSE.”

In the FGDs students in schools where teachers were adequately housed told of easily accessing teachers for consultation after classes and most teachers availing themselves in class early in the morning and late in the evening. In contrast a student in a day school that had no housing for teachers said, ‘Most of our teachers stay far away from school and on most days many of them leave the school as early as 4:00p.m. This means that if you wanted to consult a teacher over a problem you had in their subject it would be difficult for them to find time for you.’”

These findings concur with the findings of reviewed literature. Republic of Kenya (2008) stated that rapid increase in all levels of education without commensurate increase in infrastructure and personnel had a negative effect on the quality of education offered. Correspondingly, Organization for Economic Co-operation and Development (2013) in a study ‘School Factors Related to Quality and Equity’ established that school resources such as the quality of school’s physical infrastructure as well as human resources strongly impacted upon students’ actual learning process. This in effect implies that effort should be made by school administrations to avail teachers in school to increase the teacher-student contact hours may consider hired accommodation in the nearby shopping centres from where teachers can easily access the school and supervise learning activities or even avail themselves for extra teaching and consultation from students.

Finally it can be observed from table 4.25 it can be observed that there was a moderate positive relationship between availability of a source of water in schools and performance in KCSE ( $r=.484$ ). The relationship was significant ( $p<.05$ ). This means that having a source of water in school only moderately influenced performance in KCSE. Other factors were responsible such as availability of textbooks and frequency of testing policy. Interview findings indicated that availability of source of water had little influence upon performance of students in KCSE. The coefficient of determination, that is  $R^2$  was .234 meaning that availability of a source of water accounted for 23.4% of the variation in KCSE performance.

In the interview with the CQASO he rated availability of source of water as a lesser factor influencing performance in KCSE. Similarly in the interviews with the deputy principals many of them affirmed that water was mainly useful for drinking and washing. However it had a minimal impact upon the actual learning processes that guaranteed good performance in KCSE. In the FGDs the students were in agreement, affirming that provision of water enabled them to be comfortable and attentive during the learning processes were of greater impact upon their performance in KCSE. Kithi (2011) however concluded that where availability of drinking water was unfavourable to learning, pupils deserted schools. Otieno (2012) also concluded that schools that rated with best facilities such as water performed well in national examinations. It is not in dispute that availability of water enhanced the comfort of students in schools and thereby ensuring their attention and maximum participation in class. However water needs to be provided alongside other factors such as laboratories and libraries that greatly impact upon performance in KCSE.

The school factors were further subjected to stepwise regression to determine the student's academic performance. The results were as shown in Table 4.26.

**Table 4.26: Stepwise Regression Analysis for the Influence of School Factors on Students' Academic Performance**

Model	Unstandardized coefficients		Standardized coefficients	t	Sig
	B	Std. Error	Beta		
(constant)	3.021	.308		9.814	.000
X <sub>1</sub> Libraries	.507	.162	.204	3.122	.002
X <sub>2</sub> Laboratories	.702	.089	.505	7.895	.000

a. Dependent equation : 2014 Mean score,

b. Regression equation  $Y = \beta_1 X_1 + \beta_2 X_2 +$

In stepwise regression analysis independent variables were added into the equation model one by one and at each stage, any variable which was already included in the model but whose extra sum of squares ( $R^2$ ) contribution had declined to a non-significant level was eliminated. Selection stopped when all non-significant variables were eliminated and all variables that were significant were retained.

The variable, libraries was significant as the calculated p-value of 0.002 which was less than the set p-value of 0.05 indicating that availability of libraries was a significant predictor of KCSE performance in schools. This means that an increase by one percent of the libraries improved students academic performance in K.C.S.E by 0.507 percent as signified by a coefficient of 0.507. These findings indicate that the more available library services are to students the higher the likelihood of those students attaining quality grades at KCSE. These findings concur with document analysis data which showed that in schools where students



accessed revision materials and other reference books from the library, such students ended up performing well at KCSE. They correspond further with the findings of Wasilwa (2012) who established that the availability of physical facilities and how they were utilized encouraged students to perform well in KCSE exams and this influenced academic performance. It is important to note however that availability of library services alone may not have much influence upon students' performance in KCSE. Data from document analysis indicated that it was in schools where there was an established reading culture and where students frequently accessed revision and reference materials that students performed well in KCSE where the library facilities were available but were not utilized by the students, students performed below their actively – involved counterparts.

The variable of laboratories was also significant calculated p-value of 0.000 which was less than the set p-value of 0.05 indicating that availability of laboratories was a significant predictor of KCSE performance in schools. This means that an increase by one percent in laboratories improved students academic performance in K.C.S.E by 0.702 percent as signified by a coefficient of 0.702. These findings indicate that the more frequently students utilized the laboratories the higher their chances of performing well at KCSE. These findings further correspond with those of the Inter-American Development Bank (2008) which established Argentina as being in a vicious circle of declining quality and a very unequal system. The explanation for this poor performance is in part explained by lack of resources allocated to education and also the slope or the efficiency in which those resources were used in general lower than comparable countries.

This study has established several meaningful conclusions. It has established that there were schools that lacked laboratories and this hampered the efforts of students to perform well in examinations. There were however other schools that lacked laboratories but improvised rooms where practical lessons could take place. Students in these schools performed well in examinations. Frequency of exposure to practical lessons is what gave students who performed well in KCSE an edge over their counterparts who were less exposed. Finally, since most students found the science subjects to be the most challenging in the curriculum, schools where students performed well in the sciences automatically performed well in KCSE. The regression model is  $Y = 3.021 + .507X_1 + .702 X_2$

To establish the influence of school factors on students' academic performance, regression analysis was computed and the results were as shown in Table 4.27.

**Table 4.27: Regression Analysis of School Factors on Students' Academic Performance**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.867 <sup>a</sup>	.752	.738	.87059

a. Predictor: (constant), source of water, playgrounds, desks, electricity, laboratories, latrines , libraries, classrooms and staff houses.

From Table 4.27 it can be noted that school factors accounted for 73.8% of the students' academic performance in K.C.S.E as signified by the coefficient .738. This means that 26.6% of the students' performance was as a result of other factors that were not subjects of this study. The finding that school factors strongly influenced the performance of students in

K.C.S.E concurred with Akin and Folorunso’s (2014) finding that school environment and facilities may enhance one’s confidence in ability to do well in any academic task especially Science subjects that depend so much on laboratory works. An analysis of available documents such as academic records further revealed that frequency of testing policy also influenced performance of students in KCSE. Overallly it can be observed that libraries and laboratories were the school factors that had greater influence upon performance in KCSE. Availability of classrooms and staff houses were also established as having considerably influence upon KCSE performance.

The data was also subjected to ANOVA to establish whether school factors were significant predictors of KCSE performance. The results were as shown in Table 4.28.

**Table 4.28: ANOVA Test for School Factors and Students’ Academic Performance.**

	<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1.	Regression	402.837	2	33.570	55.110	.000 <sup>b</sup>
	Residual	98.071	174	.609		
	Total	500.908	176			

a. Dependent variable: 2014 mean score

b. Predictors: (Constant), libraries, classrooms, playgrounds, desks, latrines, laboratories, electricity, staff houses, source of water.

From Table 4.28 it can be observed that school factors were significant predictors of students academic performance of KCSE as indicated by the calculated p-value of 0.000 which was less than the set critical p-value of 0.05. ( $F(2, 174) = 5.110, p < .05$ ).

## 4.9 Influence of Government Policies on Student Academic Performance in Secondary Education

The study sought to establish the influence of various government policies factors on the performance of candidates in the KCSE examination. These factors were number of assessments by QASOs, capacity building programs for teachers, subject workshops, bursaries and FSE funds. To accomplish this objective government policies factors were established and the data tabulated in form of descriptive statistics.

**Table 4.29: Government Policies**

<b>Government policy</b>	<b>Frequency/Amount (Kshs)</b>
<b>Non monetary</b>	
Number of assessments by QASOs	380
Capacity building courses for teachers	82
Subject workshops	812
<b>Monetary</b>	
Bursaries	31,456,000
FSE tuition	694,456,690

Correlation analysis between the government policies and KCSE performance was done using data from Table 4.29 and the results are as shown in Table 4.30.

**Table 4.30: Relationship between Government Policies and Students' Academic Performance**

		<b>Student Academic Performance in KCSE</b>
<b>Government Policies Factors</b>	Pearson's r	.752
	Sig (2 tailed)	.000
	N	176

From Table 4.30 it can be noted that there was a strong positive relationship between government policies and students' academic performance ( $r = .752$   $N = 176$  and  $p < .05$ ). The relationship was significant. The null hypothesis was therefore rejected. This means that government policies enhanced student academic performance in K.C.S.E

To establish the influence of individual government policies, the individual government policies were correlated with student performance. The results were as shown in Table 4.31.

**Table 4.31: Relationship between Government Policy Factors and Students' Academic Performance**

Government policy factors		Students academic performance	
X <sub>1</sub>	Number of assessment by QASOs	r	.599
		p	.000
		n	176
X <sub>2</sub>	Capacity building Programs for teachers	r	.231
		p	.002
		n	176
X <sub>3</sub>	Subject workshops	r	.718
		p	.000
		n	176
X <sub>4</sub>	Bursaries	r	.548
		p	.000
		n	176
X <sub>5</sub>	F.S.E Funds	r	.411
		p	.000
		n	176

**r-** Pearson correlation coefficient      **p-** Calculated critical Value      **n** –sample size

From Table 4.31 it can be observed that there was a moderate positive relationship between number of assessments by QASOs and KCSE performance ( $r=.599$ ). The relationship was significant ( $P<.05$ ). This means that number of assessments by QASOs moderately influenced performance in KCSE. The coefficient of determination that is  $R^2$  was .359 meaning that number of assessments by QASOs accounted for 35.9% of the variation in KCSE performance. Interview findings indicated that assessments by QASOs moderately influenced performance of students in KCSE. In the interview with the CQASO he affirmed that visits by QASOs helped to make teachers accountable and keep them on their feet. These

visits also emphasized on target setting in relation to students' grades and therefore teachers made effort to meet these targets which eventually boosted the quality and academic performance of students in KCSE. In the interviews with the deputy principals one of them observed that unlike in the past years when WASOs visited schools unannounced, these days they make the day of the assessment known to the teachers through the principals. This he added he the advantage of enabling teachers put their records in order as well as prepare lessons notes and teaching aids. The end result was that students received quality teaching for some time. In a different school however the deputy principal observed that these assessments were far and in-between sometimes taking place after even two years which minimized the influence they had on the performance of students in KCSE. These findings concur with those of Mingat, Leduox and Rakotomalata (2010) who concluded that compromises must be struck between providing educational services that meet acceptable standards for quality and reaching as many of the target population as desired.

It can be observed that the influence of QASO's assessment only moderately influence performance in KCSE. This may be because the effects of these assessments are usually short-lived as the visits are often spread over long periods of time. Further, quality that is put in place just to meet the requirements of the quality assessors would impact little on performance unless it was implemented as a culture that is geared towards improving academic performance.

It can further be observed from Table 4.31 that there was a weak positive relationship between capacity building programs for teachers and performance in KCSE. This

relationship was significant ( $P < .05$ ). This means that capacity building programs for teachers only had little influence upon performance in KCSE. Other factors were therefore more responsible such as poor learning environments and reluctance of teachers to embrace new technology and better teaching methods. Interview findings indicated that most of the capacity building programmes for teachers were managed courses which had little direct influence upon students' academic performance. In the interview with the deputy principals they affirmed that the capacity building programmes were mainly tailor-made for teachers in administrative positions namely principals, deputy principals and head of departments. The content of these programmes had more to do with management than academics and therefore their influence upon students' performance in KCSE was minimal. Similarly, in the interview with the CQASO he observed that the capacity building programmes only targeted a few teachers, not all the teachers teaching the students and therefore impacted little upon KCSE performance of students.

Mobegi (2007) identified in-service training as one of the challenges experienced by headteachers in their attempt to provide quality education. This implies that those who are likely to utilize the capacity building programmes are principals and who in turn will use their management skills to coordinate and ensure that quality education is achieved.

Table 4.31 further shows that there was a strong positive relationship between subject workshops and KCSE performance ( $r = .718$ ). This relationship was significant ( $p < .05$ ). This means that subject workshops strongly influenced performance in KCSE. The coefficient of determination, that is  $R^2$  was .516 meaning that bursaries accounted for 30% of the variation in KCSE performance. Interview findings indicated that subject workshops had a strong and



positive impact upon KCSE performance. In the interview with the CQASO he observed that subject workshops were solely meant to improve the quality of teaching by furnishing teachers with better more efficient and current trends in their respective subject areas. Their positive impact upon students' academic performance was therefore guaranteed.

In the interview with the deputy principals one of them observed that teachers always benefited a lot from subject workshops. He said "These workshops cover all areas relating to their subject areas including examination techniques and this enabled the teachers pass on valuable information to the students."

In a different school the deputy principal agreed saying "Some of the facilitators in the subject workshops are usually KNEC examiners or chief examiners who sometimes even predict possible questions in forthcoming KCSE exams." He added that coupled with the possibility of predicting possible examination trends went a long way in strongly and positively influencing quality performance in KCSE. It is evident therefore that teachers need to be facilitated to attend more of these subject workshops as they aid in boosting performance of students in KCSE.

From Table 4.31 it can also be observed that there was a moderate positive relationship between availability of bursaries and KCSE performance ( $r=.548$ ). This relationship was significant ( $p<.05$ ). This means that availing bursaries to students moderately and positively influenced their performance in KCSE. The coefficient of determination, that is  $R^2$  was .169 meaning that FSE funds accounted for 16.9% of the variation in KCSE performance.

Interview findings indicated that bursaries influenced performance of students in KCSE as they enabled them stay in school and benefit from the teaching and learning processes. In the interview with the CQASO he observed that bursaries were mainly given to needy but bright students. This enabled them to stay in school without being sent home for levies and therefore they ended up performing well in examinations.

In the interview with the deputy principals one of the remarked “some of our top students have been beneficiaries of bursaries throughout the four-year period. This ensures that they are always kept in school and therefore ended up performing well in examinations.” In a different interview the deputy principal of a boarding school concurred saying ‘we have had so many students who have been needy. If it was not for the bursaries they would have opted to leave the school for cheaper day schools. Their staying on contributed greatly to our high mean scores’ (see adjacent). Availing bursaries to the bright but needy students needs to be a priority of all funding agencies. School administrations can also assist by linking the needy students to bodies that can support them throughout their four-year stay in school.

Finally, it can be observed from Table 4.31 that there was a moderate positive relationship between remittance of FSE funds and performance between remittance in KCSE ( $r=.411$ ). This relationship was significant ( $P<.05$ ). This means that remittance of FSE funds moderately and positively influenced performance in KCSE. Interview findings indicated since FSE funds were availed to all students in public secondary schools they could not account for the difference in performance from school to school whether quality performance was achieved at KCSE therefore could be attributed to other factors such as availability of

workshops, science equipment and textbooks. Chevedza et al (2012) established that there was need for a fair, equitable allocation of resources to all schools in the country.

Since FSE funds were distributed equitably to all students in public secondary school they could only have minimum influence upon KCSE performance and ensure average performance at the very least. The purpose of these funds was mainly to boost transition rates from primary school to secondary as well as ensure completion rates for secondary school education. Achievement of quality grades would require more inputs and resources that exhibit deliberate effort of schools to achieve quality performance at KCSE. These inputs may include out-sourcing of guest speakers, remedial lessons for weak students and organizing for symposia for students to meet and exchange ideas and information. The difference between a school that achieves quality performance at KCSE and one that does not would therefore lie in the extra they are willing to invest in their students apart from the FSE funds.

The government policy factors were further subjected to stepwise regression analysis to establish the actual policy factors that influenced students academic performance. The results were as shown in Table 4.32.

**Table 4.32: Stepwise Regression Analysis for the Influence of Government Policies on Students' Academic Performance**

Model	Unstandardized coefficients		Standardized coefficients	t	Sig
	B	Std. Error	Beta		
(constant)	3.155	.195		16.171	.000
X <sub>1</sub> Assessments by QASO	.724	.088	.493	8.237	.000
X <sub>2</sub> Capacity building Programs for teachers	.281	.051	.291	5.481	.000
X <sub>3</sub> Subject workshops	.974	.042	.694	9.851	.000
X <sub>4</sub> Bursaries	1.269 E .006	.000	.282	4.856	.000
X <sub>5</sub> F.S.E funds	3.077E-008	.000	.117	2.064	.041

Dependant Variable: 2014 Mean Score

Regression equation,  $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5$

Table 4.32 shows that all the five variables three were statistically significant at 0.05 level. The variable of assessments by QASOs was significant as the calculated p-value of 0.000 was less than the set p-value of 0.05 indicating that assessments by QASOs were a significant predictor of KCSE performance in schools. This means that one percent increase in assessments by QASOs improved students academic performance by 0.724 percent as signified by a co-efficient of 0.724. These findings indicate that the more the QASOs visit schools the better the performance of candidates in KCSE is likely to be. These findings concur with the recommendations, Republic of Kenya (2008) that the quality assurance department of the education sector should ensure that there is an adequate number of qualified teaching staff for efficient delivery of the curriculum. The sector should also continue to improve the capacity of quality assurance officers and revitalize subject panels at

schools. The findings concur further with document analysis data which showed that schools that were frequently visited by QASOs often performed better in KCSE than those that were not. Document analysis data further revealed that schools that put in place their own quality assurance departments performed well in KCSE. It is essential therefore to incorporate quality assurance in schools so as to ensure that the quality targets that are set are met. Further, it is the frequency of the external QASOs that counts. The more they visit schools the more quality will be embraced as a culture in schools.

The variable of capacity building programs for teachers was significant as the calculated p-value of 0.000 was less than the set p-value of 0.05 indicating that capacity building programs for teachers were a significant predictor of KCSE performance in schools. This means that one percent increase in capacity building programs for teachers improved students academic performance by 0.281 percent as signified by a co-efficient of 0.281. These findings indicate that the more teachers are facilitated to attend capacity building programs the better placed they will be to assist students perform well in KCSE. These findings concur with those of Mobegi (2007) who identified lack of in-service training as one of the challenges experienced by head teachers in their attempt to provide quality education.

Document analysis data however contrasted with the findings in Table 4.29. Documents analyzed including certificates of attendance of capacity building programs by teachers indicated that most of the capacity building programs attended by teachers were not in relation to their teaching subject areas. They therefore did not have great impact upon actual academic performance of students in KCSE. The capacity building programs were more

geared towards management and administrative skills which cannot be used in isolation to influence performance in KCSE. The capacity building programs for teachers need to be used alongside other strategies such as achieving acceptable teacher-student ratios and putting particular emphasis on high demand subjects such as Math and Sciences for quality education to be achieved in performance of students in KCSE.

The variable subject workshops was significant as the calculated p-value of 0.000 was less than the set p-value of 0.05 indicating that subject workshops were significant predictors of students performances in KCSE. This means that one percent increase in subject workshops improved students academic performance in K.C.S.E by 0.974 percent as signified by a coefficient of 0.974. These findings indicate that the teachers attend subject workshops the more value they are likely to add upon KCSE performance of their students.

Republic of Kenya (2008) in a study titled 'Policy Guidelines and Challenges in Quality Assurance in Distance Learning Programmes in Kenyan Public Universities' recommended the quality assurance sector of education should conduct subject based in servicing to improve the quality of education in schools. Mayeku (2009) on the other hand identified challenges encountered in ensuring quality in distance learning programs as including inadequate resources to support use of current technology, use of outdated facilities and poor teaching and learning practices. Document analysis data revealed that most of the subject workshops emphasized better teaching methods, use of current technology and exposure to examination trends and techniques. In so doing these workshops address the challenged that have been identified as compromising achievement of quality performance in KCSE. It is

therefore paramount for school administrator to give priority to these subject workshops by allocating sufficient resources in order to equip their teachers with the necessary up-to-date skills and knowledge. Further, document analysis data revealed that there were teachers in schools with little teaching experience, some even undergraduates. These should be prioritized in being facilitated to attend the subject workshops in order to positively influence performance in KCSE.

The variable bursaries was a significant as the calculated p-value of 0.000 was less than the set p-value of 0.05 indicating that bursaries were significant predictors of students performances in KCSE. This means that one percent increase in bursaries improved students academic performance in K.C.S.E by 1.269 percent as signified by a co-efficient of 1.269. These findings indicate that bursaries play an important role in performance of students in KCSE. This is because most students attends schools without being sent home due to lack of fees. More importantly, bursaries are given to the bright and the needy.

The variable FSE funds was significant as the calculated p-value of 0.041 was less than the set p-value of 0.05 indicating that FSE funds were significant predictors of students performances in KCSE. This means that one percent increase in FSE funds improved students' academic performance in K.C.S.E by 3.077 percent as signified by a co-efficient of 3.077. These findings indicate that FSE funds are greatly improving students performance in KCSE. This is mainly because with FSE funding most students attend schools without failure. Furthermore, FSE funds are used in availing the required teaching learning resources namely; textbooks, laboratory equipment and materials, BOM teachers, Games and sports

equipment and activities, electricity supply and water among other resources. With all these in place there is no doubt that most students who have the capacity to perform better excel.

**Regression model is  $Y = 3.155 + .724X_1 + .281X_2 + .974X_3 + 1.269X_4 + 3.077X_5$**

To determine the influence of government policy factors on students' academic performance, regression analysis was computed and the results were as shown in Table 4.33.

**Table 4.33: Regression Analysis of Government Policies Factors on Students' Academic Performance.**

Model	R	R square	Adjusted R square	Std. Error of the Estimate
1	.752 <sup>a</sup>	.565	.554	1.13923

a. Predictor: (constant), F.S.E funds, capacity building programs for teachers , bursaries , number of assessments by quality assurance and standards officers.

From Table 4.33 it can be noted that government policies accounted for 55.4% of the students' academic performance in K.C.S.E as signified by the coefficient .554. This means that 44.6% of the students' academic performance was as a result of other factors that were not subject of this study. The finding that government policies moderately influence the performance of students in K.C.S.E differed with Dooley et al (2013) finding that there was no much support for the position that entrance scholarships and bursaries have sizeable impacts on any of the university outcomes. Document analysis further revealed that schools that had extra programmes for their students such as extra teaching, team teaching and provided adequate revision materials for their candidates had their students performing better in KCSE than those that did not. Overallly, it can be observed that government policy factors significantly influenced performance in KCSE.



The data was also subjected to ANOVA to establish whether school factors were significant predictors of KCSE performance. The results were as shown in Table 4.334

**Table 4.34: ANOVA Test for Government Policies Factors and Students’ Academic Performance.**

<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	281.306	5	70.326	54.187	.000 <sup>b</sup>
Residual	216.741	171	1.298		
Total	498.047	176			

a. Dependent variable 2014 mean score

b. Predictors (constant), number of assessments by QASOs capacity building programmes for teachers, subject workshops, bursaries FSE funds.

From Table 4.34 it can be observed that government policies factors were significant predictors of K.C.S.E performance as indicated by the calculated P-value of 0.000 which was less than the set critical P-value of 0.05. ( $F(5,171) = 54.187$ ,  $p < .05$ ).

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter presents the summary, conclusions and recommendations of the study based on the objectives of the study.

#### 5.2 Summary

The study sought to establish the influence of selected factors on students' academic performance in secondary education in Kakamega County, Kenya. The findings of the study were summarized as follows:

##### **5.2.1 Influence of Student Factors on Students' Academic Performance in Secondary Education.**

The study established that KCPE mark, exclusion from school and participation in co-curricular activities were student factors that influenced students' academic performance in Kakamega County. The regression model is  $Y = 5.7 - .339X_1 + .18X_2 + .142X_3 + .096X_4$ . Whereas age reduced students' academic performance, KCPE mark, exclusion from school and participation in co-curricular activities enhanced students' academic performance. These four factors accounted for 75.6% of students' academic performance. This percentage was high, meaning that student factors contributed greatly to students' academic performance in comparison to other factors.

### **5.2.2 Influence of Teacher Factors on Students' Academic Performance in Secondary Education**

The study established that teacher factors that influenced students' academic performance were B.Ed degree qualification and teacher academic qualification at form four or six level, that is, entry behaviour to university education. These teacher factors were predictors of students' academic performance. The regression model is  $Y = -.751 + 0.34X_1 + .305X_2$ . This means that whereas B.Ed degree enhanced students' academic performance, teachers with form four qualifications per se reduced students' academic performance.

### **5.2.3 Influence of Principal Factors on Students' Academic Performance Secondary Education.**

The study established that principal factors that influenced students' academic performance were principals' experience in the current station, other schools and workload. These factors however accounted for only 4% of the variation in students' academic performance. This means that principals were not significantly contributing to students' academic performance. Nevertheless, these principal's factors were significant predictors. Furthermore, whereas experience of principals enhanced students' academic performance, principals' workload reduced students' academic performance. The regression model is  $Y = 3.993 + .167X_1 + .403X_2 - .161X_3$

### **5.2.4 Influence of School Factors on Students' Academic Performance in Secondary Education**

The study established that school factors that influenced students' academic performance were libraries and laboratories. These factors accounted for 73.8% of students' academic

performance. The two factors enhanced students' academic performance significantly. They were significant predictors of students' academic performance. The regression model is  $Y = 3.021 + .507X_1 + .702X_2$

### **5.2.5 Influence of Government Policy Factors on Students' Academic Performance in secondary Education**

The study established that the government policy factors that influenced students' academic performance were assessments by QASOs, capacity building programmes for teachers, subject workshops, bursaries and FSE funds. These factors accounted for 55.4% of variation in students' academic performance. These factors greatly enhanced students' academic performance and were significant predictors of students' academic performance. The regression model is  $Y = 3.155 + .724X_1 + .281X_2 + .974X_3 + 1.269X_4 + 3.077X_5$

### **5.3 Conclusion**

The study concluded that student factors that influenced students' academic performance were KCPE mark, age, exclusion from school and participation in co-curricular activities. They accounted for 75.6% of the variation in students' academic performance. Teacher factors that influenced students' academic performance were: B.Ed degree teacher qualification and KCSE teacher qualification. They accounted for 59.4% of the variation in students' academic performance. Principal's factors that influenced students' academic performance were experience in current and other stations and workload. They accounted for only 4% of the variation in students' academic performance. The school factors that influenced students' academic performance were libraries and laboratories. They accounted

for 73.8% of the variation in students' academic performance. Government policy factors that influenced students' academic performance were: assessments by CQASOs, capacity building programmes for teachers, subject workshops, bursaries and FSE funds. They accounted for 55.4% of the variation in students' academic performance. This means that these factors improved students' academic performance differently.

## **5.4 Recommendations**

The following recommendations were made based on the findings of the study.

### **5.4.1 Influence of Student Factors on Students' Academic Performance in Secondary Education in Kakamega County**

With regard to the finding that students' age, KCPE mark, exclusion from school and participation in co-curricular activities influenced students academic performance in secondary education, the study recommended that:

- i. Students should be admitted to secondary school at the age of 14 years and should not be allowed to repeat classes as stipulated in the Basic Education Act 2013 because increase in age reduces students' academic performance.
- ii. Students who score above average mark of 250 in KCPE should be admitted to secondary schools and those who score less should be admitted in other educational institutions. This is because KCPE is a predictor of students' academic performance such that those who score above 250 marks are likely to perform better than those who score below the average mark.
- iii. Students who are undisciplined should be temporarily excluded from school, counseled and re-admitted because this helps them to focus on their studies and

perform better. It also serves as a deterrent measure to students who are likely to engage in malpractices that would otherwise compromise their performance in academics.

- iv. Students should be encouraged to participate in co-curricular activities because it enhances academic performance by reducing stress, improving discipline and being focused on their academic dreams.

#### **5.4.2 Influence of Teacher Factors on Students' Academic Performance in Secondary Education in Kakamega County**

In view of the findings that B.Ed degree enhances student academic performance and untrained teachers with only form four academic qualifications reduced students performance, the study recommended that:

- i. The TSC should only hire teachers with B.Ed degrees to teach in secondary schools because this qualification above other teacher qualifications enhances students' academic performance.
- ii. Principals of secondary schools should not hire form four leavers with KCSE certificates to teach in their schools as it impacts negatively on students' academic performance.

### **5.4.3 Influence of Principal Factors on Students' Academic Performance in Secondary Education in Kakamega County**

With regard to the finding that high teaching loads impede a principal's ability to positively influence students academic performance in secondary education in their schools the study recommended that:

- i. The government should ensure that all schools are adequately staffed so that principals have manageable teaching loads that give them ample time to attend to administrative chores that promote students' academic performance in secondary education in their schools.
- ii. In view of the finding that a principal's experience enhances students' academic performance, only principals with proven record of academic excellence should be deployed to head secondary schools so as to improve students' academic performance.

### **5.4.4 Influence of School Factors on Students' Academic Performance in Secondary Education in Kakamega County**

In view of the finding of this study that only two school factors, libraries and laboratories were statistically significant in students' academic performance in secondary education the study recommended that:

- i. The government should ensure that all schools have well-equipped laboratories and that they are utilized frequently by all students.
- ii. The government should ensure that all schools have well-stocked libraries and that all schools make a deliberate effort to nurture and inculcate a reading culture among all learners.

#### **5.4.5 Influence of Government Policy Factors on Students' Academic Performance in Secondary Education.**

With regard to the finding that government policy factors impacted upon performance of candidates in K.C.S.E the study recommended that:

- i. The government should ensure that all schools are frequently assessed by the quality assurance and standards officers and their recommendations and suggestions effected by the respective schools.
- ii. The government in conjunction with various bursary-awarding bodies should ensure equitable distribution of bursaries to needy students in an attempt to improve students' academic performance in secondary education.
- iii. The government should continue funding secondary school education through FSE programme as it enhances students' academic performance by providing the required educational resources.
- iv. Teachers in secondary schools should continue attending subject workshops in terms of pedagogy so as to gain emerging knowledge and skills for improving students' academic performance.
- v. Teachers should be continually facilitated in undertaking capacity building programmes in terms of academic guidance, vocational counseling, time management, budgeting and management of student discipline as they enhance student academic performance.



### **5.5 Suggestions for Further Research**

The study exposed the following areas that require further research:

- i. Contribution of the County government to quality of secondary education in Kakamega County.
- ii. The influence of indiscipline among students on Kenya Certificate of Secondary Education examination in Kakamega County.
- iii. The impact of a potent reading culture upon academic achievement among high school students in Kakamega County.

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**APPENDICES**

**APPENDIX I: PRINCIPALS' QUESTIONNAIRE**

**Note**

The purpose of this questionnaire is to help in the facilitation of a research study on influence of selected factors on the provision of quality secondary education in Kakamega County, Kenya. The information collected will be treated with utmost confidentiality and used for the purposes of this study only. Kindly provide the information in the spaces provided and by use of a tick (✓) where applicable.

**A. Background Information**

1. Principal:                      male ( )                      Female ( )
2. Qualification: M.ED ( ) M.A ( ) B.ED ( ) B.SC ( ) DIP.ED ( )
3. Age: 25-35 ( ) 36-45 ( ) 46-55 ( ) 56-60 ( )
4. Headship experience:  
    In this school                      Years.....Months.....  
    In other schools                      Years.....Months.....
5. Teaching Load.....
6. Number of teachers:.....Number of students:.....
7. Number of form four students.....Streams.....
8. K.C.S.E Mean Score:  
    2014.....
9. Average class size:.....Teacher-Student Ratio.....
10. Book-Student Ratio.....Frequency of Testing Policy(number of times).....

**B. Specific Information**

**11. Student Factors.**

Student factors do influence provision of quality education. In reference to your school please indicate the information regarding the 2014 candidates in the spaces shown.

Total number of student unrests.....2011.....2012.....2013.....2014.....

Average K.C.P.E mark (2011 Cohort).....

Average age (2011 Cohort).....

Absenteeism (in numbers) From school....2011.....2012.....2013.....2014.....

From class.....2011.....2012.....2013.....2014.....

From prep.....2011.....2012.....2013.....2014.....

Cases of exclusion.....2011.....2012.....2013.....2014.....

Participation in co-curricular activities: County Level (number of times).....

On Weekly Basis (number of times).....

Any other(s) specify.....

**12. Teacher Factors**

Teacher factors do influence provision of quality secondary education. In reference to your school please indicate information regarding teachers of your school who taught the 2011-2014 class in the spaces provided.

Teacher	Qualification	Teaching Experience	Age	Gender	Workload	2014 Mean Score
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

### 13. School Factors

School factors do influence provision of quality secondary education. In reference to your school please indicate the availability of the school factors shown (in numbers):

Libraries.....

Classrooms.....

Playgrounds.....

Desks.....

Latrines.....

Laboratories (frequency of use per week).....

Electricity (units used).....

Staff houses.....

Source of water (Amount used in litres).....

### 14. Government Policies

Government policies do influence provision of quality secondary education. Please provide information regarding government policies as regarding the 2014 candidates for the period 2011-2014 in the spaces provided.

Number of assessments by quality assurance and standards officers.....

Capacity building programmes/courses for teachers

SMASSE (frequency of attendance).....

Subject workshops (frequency of attendance).....

Amount given (In Kshs)

Bursaries .....

F.S.E-Tuition.....



## **APPENDIX II**

### **CQASO INTERVIEW SCHEDULE**

1. In your opinion how do the following student factors influence provision of quality secondary education in Kakamega County? Study habits, Attendance of school, Student discipline, Peer influence, K.C.P.E mark.
2. Would you rate the influence as high or low? In what ways?
3. In what way and to what extent do the following teacher factors influence provision of quality secondary education in Kakamega County? Teaching experience, Qualification, Age, Gender, Workload.
4. How do the following principals factors influence provision of quality secondary education in Kakamega County? Leadership style, Experience, Gender, Age.
5. In your view how and to what extent do the following school factors influence provision of quality secondary education in Kakamega County? Would you describe the influence as high influence or low influence? Libraries, Classrooms, Playgrounds, Desks, Latrines, Laboratories, Electricity, Source of water, Staff houses, Textbooks.
6. In what way and to what extent do the following government policies factors affect provision of quality secondary education in Kakamega County? F.S.E., Staffing, Assessments from the Quality Assurance and Standards Officers.

### APPENDIX III

#### DEPUTY PRINCIPALS' INTERVIEW SCHEDULE

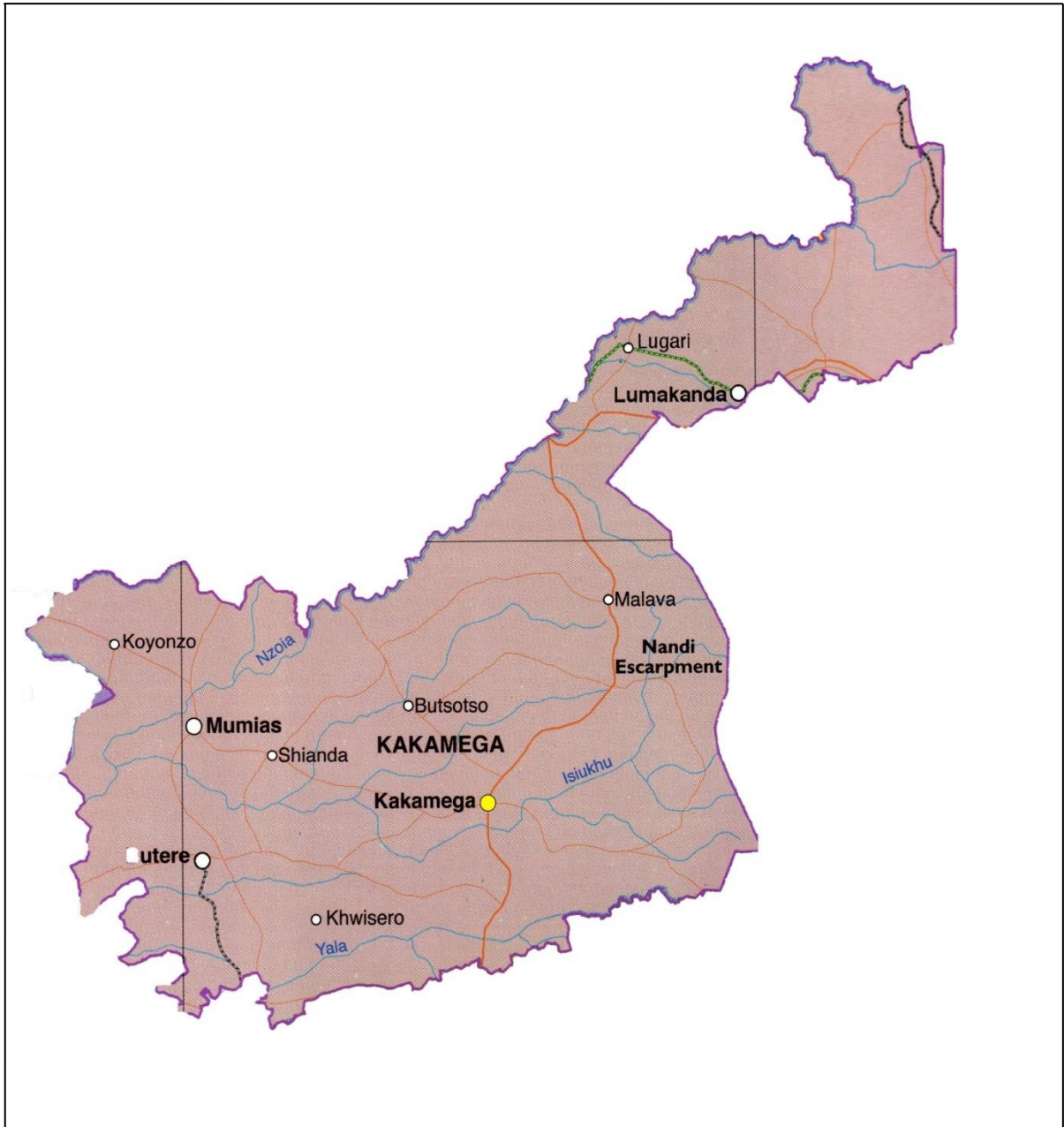
1. In what aspect do the following student factors influence students' access to quality secondary education in Kakamega County? To what extent? Peer influence, K.C.P.E marks, Study habits, Attendance of school, Student discipline.
2. How do the following teachers' factors influence provision of quality secondary education in Kakamega County? In what aspect? Teaching experience, Teacher qualification, Age, Gender, Workload.
3. To what extent do the following principals factors influence provision of quality secondary education in Kakamega County? Leadership style, Age, Experience, Gender.
4. In your view how do the following school factors influence provision of quality secondary education in Kakamega County? Libraries, Classrooms, Playgrounds, Desks, Latrines, Laboratories, Electricity, Source of water, Staff houses, Textbooks.
5. To what extent do the following government policies factors influence provision of quality secondary education in Kakamega County?
  - Number of assessment by QASOs
  - Capacity building programmes for teachers
  - Subject workshops for teachers
  - Bursaries
  - F.S.E Funds

## APPENDIX IV

### FORM FOUR STUDENTS' FOCUS GROUP DISCUSSION GUIDE

1. (a) How do study habits affect performance of students in the final K.C.S.E exam?  
(b) How does attending school or missing school affect performance of students in the final K.C.S.E exam?  
(c) In what way does the discipline of students affect their performance in the final K.C.S.E exam?  
(d) How does the discipline of students affect their performance in the final K.C.S.E exam.  
(e) How does peer influence affect results of students in the K.C.S.E examination?  
(f) In your view is there any relationship between K.C.P.E mark and the results a student gets in K.C.S.E.
  
2. (a) In what ways do laboratories affect performance of students in the final K.C.S.E exam?  
b) In your view how does the availability of textbooks or their lack in schools affect results of students in the final K.C.S.E exam?  
(c) Do you think that sports facilities and students participating in sports affects their performance in the final K.C.S.E exam? How?  
(d) In your opinion how does the availability of guidance and counseling services in schools affect the performance of students in the final K.C.S.E exam?  
(e) How does the use of reference books and studying from the library affect results of students in the K.C.S.E examination?

**APPENDIX V**  
**MAP OF KAKAMEGA COUNTY**



**APPENDIX VI ABSENTEEISM FROM SCHOOL 2011-2014**

SCH	2011	2012	SCH	2011	2012	SCH	2011	2012	SCH	2011	2012	SCH	2011	2012	SCH	2011	2012
1	8	6	33	11	12	65	13	11	97	11	6	129	21	16	161	18	22
2	13	9	34	14	16	66	7	11	98	6	3	130	16	20	162	18	26
3	18	11	35	11	15	67	7	12	99	7	11	131	16	9	163	19	21
4	11	13	36	5	15	68	15	20	100	11	13	132	13	16	164	6	11
5	7	9	37	12	9	69	20	15	101	3	6	133	16	18	165	6	22
6	13	10	38	9	8	70	11	16	102	7	6	134	18	21	166	8	13
7	16	11	39	3	6	71	6	11	103	10	19	135	16	18	167	18	20
8	8	7	40	11	18	72	2	6	104	9	16	136	18	16	168	14	16
9	6	9	41	16	20	73	5	6	105	22	18	137	16	14	169	19	22
10	7	6	42	11	14	74	13	16	106	16	18	138	13	16	170	9	6
11	12	16	43	5	6	75	9	6	107	11	13	139	9	11	171	8	9
12	11	17	44	10	15	76	9	11	108	16	21	140	22	19	172	6	7
13	4	7	45	50	170	77	18	7	109	13	15	141	16	19	173	8	7
14	7	9	46	20	39	78	8	17	110	16	9	142	16	22	174	11	14
15	4	7	47	15	17	79	19	21	111	13	16	143	6	9	175	6	18
16	3	6	48	20	16	80	21	18	112	9	16	144	16	21	176	12	16
17	6	11	49	30	26	81	13	11	113	18	14	145	16	13			
18	6	8	50	8	10	82	2	1	114	17	9	146	12	16			
19	9	11	51	15	35	83	6	10	115	10	14	147	9	2			
20	17	5	52	16	22	84	6	7	116	8	11	148	9	16			
21	5	3	53	15	26	85	5	4	117	6	8	149	16	22			
22	1	3	54	30	35	86	3	7	118	10	13	150	16	9			
23	6	8	55	75	40	87	7	9	119	23	16	151	18	21			
24	6	3	56	16	14	88	3	5	120	21	16	152	6	18			
25	11	9	57	11	7	89	9	16	121	9	6	153	16	15			
26	12	13	58	16	11	90	13	10	122	6	8	154	16	21			
27	3	6	59	21	26	91	12	14	123	9	16	155	16	12			
28	16	22	60	6	11	92	18	21	124	6	8	156	6	11			
29	10	11	61	9	16	93	12	14	125	11	8	157	6	11			
30	6	7	62	4	7	94	16	11	126	6	8	158	18	16			
31	15	26	63	11	13	95	16	11	127	7	9	159	8	6			
32	20	24	64	11	13	96	7	11	128	6	3	160	6	11			

SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014
1	11	7	33	8	9	65	7	9	97	9	12	129	18	22	161	19	16
2	14	7	34	21	13	66	13	12	98	13	11	130	18	7	162	19	12
3	9	7	35	10	8	67	8	11	99	16	10	131	13	12	163	19	18
4	9	12	36	8	10	68	18	20	100	16	8	132	9	7	164	14	9
5	8	11	37	13	12	69	16	9	101	7	2	133	9	11	165	17	6
6	16	12	38	11	5	70	17	9	102	5	8	134	16	13	166	9	12
7	17	18	39	8	7	71	13	9	103	8	13	135	9	11	167	21	16
8	11	6	40	22	15	72	4	7	104	21	18	136	9	11	168	9	6
9	7	11	41	11	13	73	8	11	105	19	16	137	11	9	169	16	10
10	11	13	42	10	8	74	17	11	106	23	18	138	8	13	170	11	5
11	11	15	43	4	5	75	11	13	107	18	16	139	8	6	171	11	6
12	9	6	44	36	25	76	15	11	108	18	20	140	11	9	172	9	11
13	8	11	45	60	35	77	15	11	109	20	19	141	13	11	173	6	3
14	5	11	46	26	15	78	9	6	110	8	11	142	19	21	174	17	9
15	11	6	47	10	8	79	10	7	111	9	6	143	11	8	175	19	12
16	8	5	48	15	5	80	16	11	112	8	11	144	19	9	176	22	16
17	9	8	49	15	12	81	9	7	113	9	13	145	15	12			
18	11	9	50	17	8	82	6	3	114	13	10	146	18	10			
19	13	7	51	40	15	83	8	4	115	14	9	147	6	7			
20	11	6	52	32	14	84	11	9	116	16	21	148	17	16			
21	4	6	53	42	30	85	6	9	117	11	9	149	1	13			
22	2	4	54	20	16	86	11	9	118	15	11	150	11	13			
23	11	6	55	40	36	87	13	12	119	17	15	151	19	11			
24	4	7	56	7	11	88	9	6	120	14	9	152	17	9			
25	16	7	57	6	8	89	18	13	121	11	13	153	9	7			
26	7	9	58	13	17	90	17	11	122	9	11	154	18	10			
27	2	4	59	26	18	91	9	7	123	8	7	155	9	6			
28	17	9	60	9	7	92	16	12	124	18	9	156	19	10			
29	9	10	61	8	7	93	9	7	125	6	9	157	7	6			
30	4	11	62	6	8	94	19	12	126	13	11	158	9	11			
31	12	6	63	9	14	95	7	13	127	11	8	159	9	3			
32	18	7	64	14	15	96	6	12	128	7	5	160	14	9			

**APPENDIX VII : ABSENTEEISM FROM CLASS 2011-2014**

SCH	2011	2012	SCH	2011	2012	SCH	2011	2012	SCH	2011	2012	SCH	2011	2012	SCH	2011	2012
1	3	7	33	2	7	65	4	3	97	6	8	129	15	23	161	9	13
2	3	5	34	4	8	66	6	4	98	6	3	130	6	18	162	9	13
3	11	6	35	2	4	67	2	1	99	3	7	131	11	8	163	11	13
4	4	6	36	2	4	68	6	7	100	5	11	132	14	18	164	6	7
5	4	3	37	8	6	69	9	7	101	4	3	133	10	13	165	7	13
6	3	5	38	2	3	70	6	9	102	6	8	134	6	7	166	6	12
7	6	8	39	2	4	71	3	7	103	6	4	135	6	8	167	11	9
8	4	6	40	4	7	72	3	7	104	11	14	136	11	13	168	6	7
9	7	9	41	2	5	73	8	6	105	13	6	137	8	7	169	18	9
10	3	3	42	5	6	74	8	9	106	17	11	138	15	17	170	6	2
11	3	1	43	4	7	75	6	9	107	9	13	139	3	6	171	5	4
12	4	5	44	5	15	76	2	6	108	8	16	140	8	11	172	3	4
13	2	4	45	10	25	77	8	11	109	18	16	141	9	6	173	9	2
14	3	6	46	6	5	78	6	3	110	6	8	142	6	18	174	4	3
15	2	1	47	6	7	79	11	13	111	5	8	143	3	5	175	9	8
16	1	2	48	6	14	80	13	8	112	7	9	144	11	9	176	11	16
17	5	2	49	8	15	81	3	6	113	6	8	145	8	9			
18	3	5	50	6	11	82	7	5	114	8	7	146	11	13			
19	5	7	51	6	15	83	2	4	115	6	8	147	3	4			
20	5	11	52	6	10	84	3	5	116	8	11	148	6	9			
21	2	4	53	6	12	85	3	4	117	10	6	149	9	7			
22	2	4	54	6	4	86	6	9	118	13	10	150	6	8			
23	3	7	55	7	18	87	6	5	119	19	21	151	6	8			
24	1	5	56	11	13	88	8	7	120	13	15	152	7	11			
25	4	7	57	4	6	89	11	15	121	6	5	153	9	13			
26	6	11	58	10	6	90	8	7	122	6	10	154	7	9			
27	2	1	59	5	4	91	6	9	123	6	7	155	18	9			
28	4	2	60	9	16	92	7	11	124	7	13	156	18	9			
29	5	7	61	4	5	93	4	6	125	10	8	157	8	15			
30	2	4	62	3	4	94	9	16	126	9	13	158	14	9			
31	6	7	63	6	3	95	9	5	127	3	7	159	7	11			
32	5	8	64	6	7	96	4	7	128	9	7	160	7	8			

SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014
1	5	9	33	4	6	65	6	7	97	7	9	129	8	10	161	11	14
2	4	3	34	6	4	66	3	6	98	7	4	130	9	11	162	14	6
3	8	4	35	5	3	67	6	3	99	8	11	131	12	14	163	9	7
4	7	8	36	7	3	68	3	2	100	6	7	132	6	9	164	13	4
5	7	2	37	5	3	69	11	14	101	8	6	133	7	6	165	4	6
6	7	6	38	3	4	70	11	5	102	11	9	134	11	12	166	9	6
7	4	7	39	7	5	71	11	6	103	9	7	135	11	9	167	7	6
8	9	7	40	5	3	72	9	6	104	17	20	136	9	8	168	4	2
9	6	8	41	3	7	73	8	14	105	27	18	137	13	12	169	6	2
10	5	2	42	8	5	74	13	8	106	15	16	138	9	6	170	8	11
11	3	2	43	5	6	75	5	6	107	14	19	139	5	3	171	9	16
12	9	7	44	7	10	76	8	7	108	9	13	140	9	12	172	7	9
13	5	6	45	16	18	77	13	19	109	9	7	141	11	8	173	5	4
14	2	4	46	7	3	78	5	7	110	5	7	142	17	5	174	6	7
15	3	5	47	11	9	79	9	16	111	7	9	143	2	4	175	6	11
16	4	3	48	14	10	80	7	13	112	12	6	144	6	8	176	8	12
17	7	4	49	9	5	81	8	13	113	11	15	145	7	6			
18	4	3	50	6	11	82	9	10	114	11	9	146	14	16			
19	4	3	51	10	6	83	3	5	115	11	10	147	1	3			
20	6	8	52	8	10	84	7	3	116	9	13	148	16	12			
21	5	4	53	8	5	85	5	7	117	9	7	149	6	11			
22	6	8	54	5	8	86	12	17	118	9	13	150	9	7			
23	2	1	55	8	15	87	9	11	119	10	16	151	11	13			
24	6	2	56	9	7	88	11	13	120	9	7	152	13	10			
25	10	6	57	8	11	89	7	18	121	7	9	153	18	21			
26	9	6	58	13	12	90	11	13	122	13	12	154	11	14			
27	0	2	59	6	2	91	7	6	123	9	11	155	7	5			
28	7	6	60	8	16	92	13	7	124	12	10	156	6	8			
29	6	3	61	7	6	93	9	11	125	9	5	157	6	3			
30	7	6	62	6	8	94	8	7	126	12	9	158	7	10			
31	4	3	63	8	6	95	6	3	127	6	5	159	8	4			
32	6	4	64	11	8	96	8	6	128	5	9	160	11	13			



**APPENDIX VIII : ABSENTEEISM FROM PREP 2011-2014**

SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014
1	0	0	33	0	0	65	0	0	97	0	0	129	16	15	161	11	16
2	0	0	34	0	0	66	0	0	98	0	0	130	11	21	162	9	8
3	0	0	35	0	0	67	0	0	99	0	0	131	8	19	163	0	0
4	6	7	36	7	6	68	0	0	100	0	0	132	11	13	164	0	0
5	13	9	37	0	0	69	6	3	101	0	0	133	9	8	165	5	11
6	8	12	38	0	0	70	3	5	102	0	0	134	0	0	166	0	0
7	11	6	39	0	0	71	4	6	103	0	0	135	0	0	167	12	10
8	4	6	40	0	0	72	6	11	104	0	0	136	0	0	168	8	6
9	0	0	41	0	0	73	0	0	105	12	17	137	0	0	169	11	13
10	0	0	42	2	3	74	0	0	106	11	8	138	0	0	170	0	0
11	0	0	43	7	5	75	0	0	107	13	16	139	0	0	171	0	0
12	0	0	44	0	0	76	3	7	108	7	13	140	6	8	172	0	0
13	0	0	45	3	0	77	0	0	109	0	0	141	0	0	173	0	0
14	0	0	46	0	0	78	0	0	110	0	0	142	11	13	174	0	0
15	0	0	47	2	0	79	0	0	111	0	0	143	0	0	175	0	0
16	0	0	48	0	5	80	0	0	112	6	12	144	10	8	176	0	0
17	0	0	49	0	5	81	0	0	113	0	0	145	0	0			
18	0	0	50	6	5	82	13	15	114	6	8	146	0	0			
19	0	0	51	10	5	83	7	11	115	0	0	147	0	0			
20	16	9	52	20	10	84	2	6	116	0	0	148	0	0			
21	8	6	53	10	8	85	4	6	117	0	0	149	11	13			
22	6	7	54	0	0	86	2	11	118	0	0	150	11	13			
23	6	5	55	0	0	87	13	7	119	10	16	151	14	16			
24	4	2	56	1	0	88	7	9	120	7	18	152	0	0			
25	0	0	57	0	0	89	16	12	121	4	3	153	6	18			
26	0	0	58	3	6	90	0	0	122	6	5	154	9	21			
27	0	0	59	0	0	91	0	0	123	0	0	155	0	0			
28	0	0	60	0	0	92	0	0	124	0	0	156	0	0			
29	16	10	61	0	0	93	0	0	125	0	0	157	0	0			
30	0	0	62	0	0	94	0	0	126	0	0	158	0	0			
31	11	0	63	7	6	95	0	0	127	0	0	159	0	0			
32	1	0	64	0	0	96	0	0	128	0	0	160	0	0			

SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014
1	0	0	33	0	0	65	0	0	97	0	0	129	9	11	161	9	7
2	0	0	34	0	0	66	0	0	98	0	0	130	9	6	162	11	14
3	0	0	35	0	0	67	0	0	99	0	0	131	9	7	163	0	0
4	6	7	36	7	6	68	0	0	100	0	0	132	6	8	164	0	0
5	13	9	37	0	0	69	9	13	101	0	0	133	11	9	165	10	9
6	8	12	38	0	0	70	4	7	102	0	0	134	0	0	166	0	0
7	11	6	39	0	0	71	8	7	103	0	0	135	0	0	167	9	6
8	4	6	40	0	0	72	0	0	104	0	0	136	0	0	168	10	9
9	0	0	41	0	0	73	0	0	105	18	20	137	0	0	169	6	4
10	0	0	42	2	3	74	0	0	106	7	12	138	0	0	170	0	0
11	0	0	43	7	5	75	0	0	107	19	9	139	0	0	171	0	0
12	0	0	44	0	0	76	4	3	108	11	10	140	13	16	172	0	0
13	0	0	45	3	0	77	0	0	109	0	0	141	0	0	173	0	0
14	0	0	46	0	0	78	0	0	110	0	0	142	9	8	174	0	0
15	0	0	47	2	0	79	0	0	111	0	0	143	0	0	175	0	0
16	0	0	48	0	5	80	0	0	112	14	9	144	7	5	176	0	0
17	0	0	49	0	5	81	0	0	113	0	0	145	0	0			
18	0	0	50	6	5	82	21	0	114	13	4	146	0	0			
19	0	0	51	10	5	83	8	6	115	0	0	147	0	0			
20	16	9	52	20	10	84	3	7	116	0	0	148	0	0			
21	8	6	53	10	8	85	9	7	117	0	0	149	12	9			
22	6	7	54	0	0	86	16	12	118	0	0	150	6	5			
23	6	5	55	0	0	87	6	8	119	7	9	151	9	6			
24	4	2	56	1	0	88	13	12	120	8	6	152	0	0			
25	0	0	57	0	0	89	7	8	121	6	8	153	9	6			
26	0	0	58	3	6	90	0	0	122	4	4	154	6	7			
27	0	0	59	0	0	91	0	0	123	0	0	155	0	0			
28	0	0	60	0	0	92	0	0	124	0	0	156	0	0			
29	16	10	61	0	0	93	0	0	125	0	0	157	0	0			
30	0	0	62	0	0	94	0	0	126	0	0	158	0	0			
31	11	0	63	7	6	95	0	0	127	0	0	159	0	0			
32	1	0	64	0	0	96	0	0	128	0	0	160	0	0			

**APPENDIX IX: NUMBER OF FORM FOUR STUDENTS/NUMBER OF STREAMS**

SCH	F4	S	SCH	F4	S	SCH	F4	S	SCH	F4	S	SCH	F4	S	SCH	F4	S
1.	102	2	33.	20	1	65	20	1	97	28	1	129	186	4	161	148	3
2.	56	1	34.	47	1	66	43	1	98	30	1	130	120	3	162	160	3
3.	65	1	35.	177	4	67	20	1	99	48	1	131	78	2	163	80	2
4.	149	3	36.	176	3	68	40	1	100	20	1	132	124	2	164	26	1
5.	66	2	37.	75	2	69	263	5	101	15	1	133	154	3	165	76	2
6.	151	3	38	15	1	70	130	2	102	29	1	134	67	1	166	37	1
7.	153	3	39	41	1	71	119	2	103	27	1	135	49	1	167	129	2
8.	42	1	40	147	3	72	94	2	104	52	1	136	56	1	168	88	2
9.	96	2	41	70	3	73	18	1	105	229	5	137	51	1	169	95	2
10.	24	1	42	166	5	74	41	1	106	184	3	138	52	1	170	21	1
11.	59	1	43	122	4	75	81	2	107	148	3	139	25	1	171	22	1
12.	63	1	44	297	2	76	70	2	108	101	2	140	185	3	172	27	1
13.	15	1	45	600	1	77	83	2	109	37	1	141	56	1	173	22	1
14.	58	1	46	72	2	78	28	1	110	23	1	142	108	2	174	21	1
15.	33	1	47	44	1	79	68	1	111	21	1	143	24	1	175	32	1
16.	12	1	48	82	2	80	74	1	112	68	2	144	79	2	176	35	1
17.	34	1	49	38	1	81	31	1	113	78	2	145	42	1			
18.	29	1	50	83	2	82	293	6	114	72	2	146	31	1			
19.	45	1	51	84	2	83	59	1	115	36	1	147	18	1			
20.	287	5	52	159	2	84	75	2	116	23	1	148	46	1			
21.	177	4	53	69	3	85	145	3	117	18	1	149	195	4			
22.	16	1	54	29	1	86	267	5	118	94	2	150	80	2			
23.	81	2	55	50	1	87	139	3	119	115	2	151	78	2			
24.	22	1	56	54	1	88	114	2	120	63	1	152	39	1			
25.	33	1	57	37	1	89	90	2	121	70	2	153	134	2			
26.	64	1	58	49	1	90	46	1	122	49	1	154	91	2			
27.	15	1	59	25	1	91	75	1	123	30	1	155	53	1			
28.	73	2	60	25	1	92	41	1	124	41	1	156	72	1			
29.	83	2	61	36	1	93	30	1	125	24	1	157	23	1			
30.	26	1	62	20	1	94	93	2	126	32	1	158	54	1			
31.	160	3	63	108	2	95	33	1	127	21	1	159	26	1			
32.	71	2	64	66	1	96	26	1	128	16	1	160	45	1			

**APPENDIX X :CASES OF EXCLUSION 2011- 2014**

SCH	2011	2012	SCH	2011	2012	SCH	2011	2012	SCH	2011	2012	SCH	2011	2012	SCH	2011	2012
1	1	1	33	0	2	65	0	1	97	1	0	129	0	0	161	0	0
2	1	1	34	2	2	66	0	1	98	0	1	130	0	1	162	0	1
3	0	1	35	0	2	67	0	1	99	0	0	131	1	0	163	0	0
4	0	1	36	0	1	68	1	2	100	0	0	132	1	0	164	0	1
5	0	2	37	0	2	69	1	2	101	0	0	133	0	1	165	0	1
6	0	1	38	1	1	70	0	1	102	0	0	134	0	2	166	0	0
7	1	1	39	0	2	71	0	1	103	0	2	135	0	2	167	0	0
8	0	0	40	0	2	72	0	0	104	0	1	136	0	1	168	0	1
9	1	0	41	0	2	73	0	0	105	0	0	137	0	1	169	0	1
10	1	0	42	0	1	74	0	2	106	0	0	138	0	1	170	0	1
11	1	0	43	0	0	75	0	2	107	0	0	139	0	0	171	0	0
12	1	0	44	0	0	76	0	1	108	0	1	140	0	1	172	0	1
13	1	1	45	0	1	77	0	1	109	0	1	141	0	0	173	0	1
14	0	2	46	0	1	78	0	1	110	0	2	142	0	0	174	0	0
15	0	0	47	2	1	79	0	1	111	0	1	143	0	0	175	0	1
16	1	1	48	0	1	80	0	2	112	0	0	144	0	1	176	0	1
17	1	1	49	0	2	81	0	0	113	0	1	145	0	0			
18	0	0	50	1	3	82	0	2	114	0	1	146	0	1			
19	0	1	51	1	2	83	0	0	115	0	1	147	0	0			
20	0	1	52	2	1	84	0	0	116	0	2	148	0	0			
21	0	1	53	0	1	85	0	2	117	0	1	149	0	1			
22	2	2	54	1	2	86	0	0	118	0	2	150	0	1			
23	0	1	55	0	2	87	0	1	119	0	1	151	0	0			
24	0	0	56	0	1	88	0	0	120	0	1	152	0	1			
25	0	2	57	0	1	89	0	0	121	0	0	153	0	1			
26	1	1	58	0	1	90	0	0	122	0	1	154	0	2			
27	0	0	59	0	2	91	0	0	123	0	1	155	0	1			
28	0	2	60	0	1	92	0	0	124	0	0	156	0	2			
29	0	1	61	0	2	93	0	0	125	1	0	157	0	1			
30	0	2	62	0	1	94	0	0	126	0	0	158	0	1			
31	2	2	63	0	2	95	0	0	127	2	0	159	0	1			
32	0	1	64	0	2	96	0	1	128	0	0	160	0	1			

SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014
1	0	0	33	2	0	65	1	0	97	0	0	129	0	0	161	0	0
2	0	0	34	0	0	66	0	0	98	0	0	130	0	0	162	0	0
3	1	0	35	0	0	67	1	0	99	1	0	131	0	0	163	1	0
4	0	0	36	0	0	68	0	1	100	0	0	132	0	0	164	0	0
5	0	0	37	0	0	69	0	0	101	1	0	133	1	0	165	0	0
6	0	0	38	0	0	70	0	0	102	0	0	134	0	0	166	0	0
7	0	0	39	1	0	71	0	0	103	0	0	135	0	0	167	0	0
8	1	0	40	2	0	72	0	0	104	0	0	136	0	0	168	0	0
9	0	0	41	0	0	73	0	0	105	0	0	137	0	0	169	0	0
10	1	0	42	1	0	74	0	0	106	0	0	138	1	0	170	0	0
11	0	0	43	0	0	75	0	0	107	0	0	139	0	0	171	0	0
12	1	0	44	0	0	76	0	0	108	1	0	140	0	0	172	0	0
13	0	0	45	1	0	77	0	0	109	0	0	141	1	0	173	0	0
14	0	0	46	1	0	78	0	0	110	0	0	142	0	0	174	0	0
15	1	0	47	1	0	79	0	0	111	0	0	143	0	0	175	0	0
16	0	0	48	2	0	80	0	0	112	0	0	144	0	0	176	0	0
17	0	0	49	0	0	81	0	0	113	0	0	145	2	0			
18	0	0	50	0	0	82	2	0	114	0	0	146	0	0			
19	2	0	51	0	0	83	0	0	115	0	0	147	1	0			
20	1	0	52	1	0	84	0	0	116	0	0	148	0	0			
21	0	0	53	1	0	85	0	0	117	1	1	149	0	0			
22	0	0	54	2	0	86	1	0	118	1	0	150	0	0			
23	0	0	55	1	0	87	0	0	119	0	0	151	0	0			
24	0	0	56	1	0	88	0	0	120	0	0	152	0	0			
25	0	0	57	1	0	89	0	0	121	0	0	153	0	0			
26	0	0	58	1	0	90	0	0	122	0	0	154	0	0			
27	1	0	59	2	0	91	0	0	123	1	0	155	0	0			
28	1	0	60	0	0	92	2	0	124	1	0	156	0	0			
29	0	0	61	0	0	93	2	0	125	0	0	157	0	0			
30	0	0	62	0	0	94	1	0	126	0	0	158	0	0			
31	0	0	63	0	0	95	0	0	127	0	0	159	0	0			
32	1	0	64	0	0	96	0	0	128	1	0	160	0	0			

**APPENDIX XI :PARTICIPATION IN CO-CURRICULAR ACTIVITIES  
WEEKLY BASIS (W)  
COUNTY LEVEL (C)**

SCH	C	W	SCH	C	W	SCH	C	W	SCH	C	W	SCH	C	W	SCH	C	W
1	8	2	33	2	2	65	1	2	97	2	0	129	8	5	161	6	3
2	4	2	34	1	2	66	2	2	98	2	1	130	8	4	162	6	3
3	4	3	35	8	5	67	1	2	99	2	1	131	8	4	163	6	2
4	8	3	36	8	5	68	1	2	100	2	1	132	6	3	164	0	1
5	8	3	37	8	2	69	8	5	101	2	1	133	7	3	165	6	2
6	8	3	38	2	2	70	8	5	102	2	1	134	6	2	166	4	2
7	8	4	39	8	3	71	8	4	103	2	1	135	6	1	167	4	3
8	4	3	40	8	2	72	8	5	104	1	1	136	4	1	168	4	1
9	8	3	41	2	3	73	4	3	105	8	5	137	4	1	169	4	1
10	2	2	42	8	5	74	4	3	106	8	5	138	4	1	170	2	1
11	2	2	43	6	5	75	8	3	107	6	4	139	2	1	171	2	1
12	2	2	44	4	5	76	8	3	108	6	3	140	8	5	172	1	1
13	2	2	45	4	5	77	4	3	109	2	2	141	4	2	173	1	1
14	2	2	46	2	5	78	4	3	110	2	2	142	3	2	174	1	1
15	2	2	47	1	2	79	4	2	111	2	2	143	2	1	175	1	1
16	2	2	48	8	2	80	3	2	112	4	2	144	3	1	176	1	1
17	2	2	49	1	2	81	3	2	113	3	1	145	3	1			
18	2	2	50	4	4	82	8	5	114	3	1	146	2	1			
19	4	3	51	4	5	83	8	5	115	2	1	147	2	1			
20	8	3	52	4	5	84	8	4	116	2	1	148	2	1			
21	8	5	53	4	4	85	6	4	117	2	1	149	8	5			
22	2	3	54	1	1	86	8	4	118	3	2	150	6	3			
23	8	4	55	2	3	87	4	2	119	4	3	151	5	3			
24	8	4	56	4	2	88	4	2	120	3	2	152	4	3			
25	2	2	57	2	2	89	4	2	121	3	2	153	5	1			
26	2	2	58	4	2	90	3	2	122	3	1	154	4	1			
27	1	2	59	0	2	91	3	2	123	2	1	155	4	1			
28	4	3	60	0	2	92	3	2	124	2	1	156	4	1			
29	4	2	61	2	2	93	2	1	125	2	1	157	3	1			
30	2	2	62	1	2	94	3	1	126	2	1	158	3	1			
31	4	5	63	4	2	95	3	1	127	2	1	159	2	1			
32	2	2	64	4	2	96	3	1	128	2	1	160	4	3			

**APPENDIX XII : SCHOOL UNRESTS 2011- 2014**

SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014	SCH	2013	2014
1	1	0	33	0	1	65	0	0	97	0	0	129	1	0	161	0	0
2	0	0	34	1	0	66	0	0	98	0	0	130	0	0	162	0	0
3	0	0	35	0	0	67	0	0	99	0	0	131	0	0	163	0	0
4	0	0	36	0	0	68	0	0	100	0	0	132	0	0	164	0	0
5	0	0	37	0	0	69	0	0	101	0	0	133	0	0	165	0	0
6	1	0	38	0	0	70	0	0	102	0	0	134	0	0	166	0	0
7	0	0	39	0	0	71	0	0	103	1	0	135	0	0	167	0	0
8	0	0	40	0	0	72	0	0	104	0	0	136	0	0	168	0	0
9	0	0	41	0	0	73	0	0	105	0	0	137	0	0	169	0	0
10	0	0	42	0	0	74	0	0	106	0	0	138	1	0	170	0	0
11	0	0	43	0	0	75	0	0	107	0	0	139	0	0	171	0	0
12	0	0	44	0	0	76	0	0	108	0	0	140	0	0	172	0	0
13	0	0	45	0	0	77	1	0	109	0	0	141	0	1	173	0	0
14	0	0	46	0	0	78	1	0	110	0	0	142	0	0	174	0	0
15	1	0	47	0	1	79	1	0	111	0	0	143	0	0	175	0	0
16	0	0	48	1	0	80	0	0	112	0	0	144	0	0	176	0	0
17	0	0	49	0	0	81	0	0	113	0	0	145	0	0			
18	0	0	50	0	0	82	0	0	114	0	0	146	0	0			
19	0	0	51	0	0	83	0	0	115	0	0	147	0	0			
20	0	0	52	1	0	84	0	0	116	0	0	148	0	0			
21	0	0	53	1	0	85	0	0	117	0	0	149	0	0			
22	0	0	54	1	0	86	1	0	118	0	0	150	0	0			
23	0	0	55	0	0	87	1	0	119	0	1	151	0	0			
24	0	0	56	1	0	88	0	0	120	0	0	152	0	0			
25	0	0	57	0	0	89	0	0	121	0	0	153	0	0			
26	0	0	58	0	0	90	0	0	122	0	0	154	0	0			
27	0	0	59	0	0	91	0	0	123	0	1	155	0	0			
28	0	0	60	0	0	92	0	0	124	0	0	156	0	0			
29	0	0	61	0	0	93	1	0	125	0	0	157	0	0			
30	1	0	62	0	0	94	0	0	126	0	0	158	0	0			
31	0	0	63	0	0	95	0	0	127	0	0	159	0	0			
32	1	0	64	1	0	96	0	0	128	0	0	160	0	0			

SCH	2011	2012	SCH	2011	2012	SCH	2011	2012	SCH	2011	2012	SCH	2011	2012	SCH	2011	2012
1	0	1	33	0	1	65	0	0	97	0	0	129	0	1	161	0	1
2	0	1	34	0	1	66	0	0	98	0	0	130	1	1	162	0	0
3	0	1	35	0	0	67	0	0	99	0	0	131	1	0	163	0	1
4	0	0	36	0	1	68	0	1	100	0	0	132	1	1	164	0	0
5	0	0	37	0	1	69	0	0	101	0	0	133	0	0	165	0	1
6	0	0	38	0	0	70	0	0	102	0	0	134	0	0	166	0	0
7	1	1	39	0	0	71	0	0	103	0	0	135	0	0	167	0	0
8	0	0	40	1	1	72	0	0	104	0	1	136	0	1	168	0	1
9	1	0	41	0	0	73	0	0	105	0	0	137	0	0	169	0	0
10	0	0	42	1	0	74	0	1	106	0	0	138	0	1	170	0	0
11	0	0	43	0	0	75	0	0	107	0	0	139	0	0	171	0	0
12	0	0	44	0	0	76	0	0	108	0	0	140	1	0	172	0	0
13	0	0	45	0	1	77	0	1	109	0	0	141	0	0	173	0	0
14	0	0	46	0	0	78	0	1	110	0	0	142	1	0	174	0	0
15	0	1	47	0	1	79	0	0	111	0	0	143	0	0	175	0	0
16	0	0	48	0	0	80	0	0	112	0	1	144	0	0	176	0	1
17	0	0	49	1	0	81	0	0	113	0	0	145	0	0			
18	0	0	50	0	1	82	0	0	114	0	0	146	0	0			
19	0	0	51	0	1	83	0	0	115	0	0	147	0	0			
20	0	0	52	0	1	84	0	0	116	0	0	148	0	0			
21	0	0	53	0	1	85	0	0	117	0	0	149	0	0			
22	0	0	54	1	0	86	0	1	118	0	0	150	0	0			
23	0	0	55	0	1	87	0	1	119	0	1	151	0	1			
24	0	0	56	1	0	88	0	0	120	0	0	152	0	0			
25	0	0	57	0	1	89	0	0	121	0	0	153	1	1			
26	0	0	58	0	1	90	0	0	122	0	0	154	0	0			
27	0	0	59	0	0	91	0	0	123	0	1	155	0	0			
28	0	0	60	0	1	92	0	0	124	0	0	156	1	1			
29	0	1	61	0	0	93	0	1	125	0	0	157	0	0			
30	0	1	62	0	0	94	0	0	126	0	0	158	0	0			
31	0	1	63	0	0	95	0	1	127	0	0	159	0	0			
32	0	1	64	0	1	96	0	0	128	0	0	160	0	0			



**APPENDIX XIII: NUMBER OF STUDENTS PER SCHOOL**

<b>SCH</b>	<b>NO</b>	<b>SCH</b>	<b>NO</b>	<b>SCH</b>	<b>NO</b>	<b>SCH</b>	<b>NO</b>	<b>SCH</b>	<b>NO</b>	<b>SCH</b>	<b>NO</b>
1	350	32	300	63	400	94	250	125	120	156	260
2	300	33	150	64	350	95	156	126	110	157	100
3	400	34	247	65	120	96	150	127	100	158	220
4	700	35	600	66	200	97	145	128	95	159	100
5	300	36	500	67	120	98	130	129	800	160	255
6	700	37	280	68	197	99	206	130	550	161	600
7	600	38	120	69	1200	100	115	131	320	162	650
8	200	39	270	70	700	101	120	132	500	163	315
9	400	40	600	71	400	102	100	133	510	164	110
10	150	41	250	72	350	103	107	134	250	165	320
11	250	42	600	73	130	104	190	135	180	166	120
12	285	43	500	74	200	105	1100	136	230	167	500
13	150	44	1200	75	300	106	800	137	195	168	500
14	230	45	350	76	275	107	400	138	215	169	380
15	160	46	200	77	305	108	415	139	105	170	100
16	120	47	220	78	155	109	155	140	600	171	105
17	150	48	400	79	209	110	115	141	220	172	120
18	150	49	290	80	250	111	100	142	420	173	110
19	220	50	500	81	155	112	250	143	105	174	120
20	1200	51	500	82	1300	113	300	144	310	175	125
21	1000	52	800	83	250	114	250	145	145	176	130
22	128	53	700	84	350	115	156	146	120		
23	300	54	200	85	700	116	100	147	100		
24	200	55	200	86	1050	117	110	148	180		
25	207	56	250	87	600	118	350	149	800		
26	295	57	150	88	500	119	500	150	350		
27	150	58	500	89	340	120	250	151	320		
28	350	59	195	90	202	121	255	152	150		
29	500	60	120	91	300	122	205	153	600		
30	150	61	150	92	200	123	100	154	550		
31	600	62	120	93	120	124	180	155	225		

**APPENDIX XIV: PRINCIPAL'S EXPERIENCE IN CURRENT STATION,  
EXPERIENCE IN OTHER STATIONS & TEACHING LOAD**

SCH	E.C	E.O	T.L	SCH	E.C	E.O	T.L	SCH	E.C	E.O	T.L	SCH	E.C	E.O	T.L	SCH	E.C	E.O	T.L	SCH	E.C	E.O	T.L
1	8	4	8	33	11	0	10	65	4	0	8	97	8	0	12	129	8	7	6	161	2	4	11
2	6	3	11	34	4	3	12	66	7	0	9	98	5	0	8	130	11	6	8	162	8	3	9
3	8	3	10	35	11	3	8	67	5	0	9	99	6	0	9	131	7	5	7	163	4	3	6
4	8	4	9	36	5	0	12	68	2	0	12	100	6	0	11	132	7	3	10	164	7	0	8
5	7	0	8	37	11	0	8	69	6	3	8	101	7	0	9	133	8	0	10	165	5	0	11
6	11	6	8	38	6	0	12	70	7	6	6	102	7	0	10	134	10	0	11	166	6	0	9
7	8	3	9	39	11	0	7	71	3	5	8	103	5	0	10	135	6	0	11	167	7	0	9
8	7	3	9	40	6	5	9	72	10	0	8	104	6	0	10	136	6	0	9	168	6	0	9
9	6	3	8	41	11	0	10	73	4	0	10	105	11	5	6	137	10	0	10	169	8	0	10
10	6	0	9	42	8	6	8	74	7	0	11	106	7	5	6	138	6	0	11	170	5	0	9
11	7	0	8	43	11	0	9	75	7	0	9	107	7	5	8	139	6	0	9	171	4	0	9
12	7	0	9	44	9	3	8	76	4	2	11	108	3	4	8	140	8	5	6	172	6	0	11
13	8	0	8	45	6	3	6	77	9	0	12	109	7	0	10	141	6	0	9	173	5	0	9
14	2	0	12	46	4	6	8	78	6	4	12	110	7	0	9	142	11	3	6	174	5	0	6
15	6	0	8	47	5	0	6	79	6	0	11	111	8	0	10	143	5	0	10	175	5	0	8
16	5	0	9	48	7	0	12	80	6	0	12	112	6	4	9	144	5	0	8	176	2	0	8
17	5	0	8	49	5	0	10	81	5	0	11	113	6	0	10	145	7	0	10				
18	5	0	9	50	3	8	15	82	8	6	6	114	5	0	11	146	4	0	9				
19	6	0	9	51	6	6	9	83	12	0	6	115	7	0	10	147	5	0	12				
20	5	6	8	52	6	7	8	84	10	3	6	116	7	0	11	148	5	0	10				
21	6	5	8	53	5	0	9	85	6	6	8	117	7	0	9	149	8	5	6				
22	6	3	12	54	3	6	12	86	11	3	6	118	7	5	8	150	7	3	8				
23	2	0	12	55	4	2	10	87	7	4	9	119	11	4	6	151	6	0	9				
24	6	0	10	56	6	0	10	88	10	4	9	120	6	5	9	152	8	0	9				
25	6	0	9	57	6	0	8	89	8	0	10	121	7	3	10	153	8	0	10				
26	12	5	12	58	1	3	9	90	6	0	12	122	3	0	8	154	7	3	9				
27	4	0	8	59	3	0	8	91	5	0	11	123	7	0	11	155	4	0	11				
28	8	0	6	60	6	0	8	92	7	0	12	124	5	0	10	156	7	0	11				
29	9	0	12	61	8	0	9	93	4	5	12	125	6	0	9	157	6	0	9				
30	9	0	11	62	5	0	9	94	7	0	11	126	6	0	11	158	7	0	10				
31	8	0	12	63	8	4	10	95	5	0	11	127	6	0	10	159	5	0	11				
32	7	0	10	64	8	0	8	96	6	0	12	128	8	0	10	160	6	3	6				

**APPENDIX XV: NUMBER OF ASSESSMENTS BY QASO (Q)  
SUBJECT WORKSHOPS (SW)**

SCH	Q	SW	SCH	Q	SW	SCH	Q	SW	SCH	Q	SW	SCH	Q	SW	SCH	Q	SW
1.	3	0	33.	2	4	65.	2	2	97.	1	2	129.	4	8	161.	2	7
2.	2	4	34.	1	3	66.	2	2	98.	1	2	130.	4	8	162.	2	5
3.	1	3	35.	4	8	67.	2	2	99.	1	3	131.	4	8	163.	2	5
4.	4	8	36.	4	8	68.	2	4	100.	1	3	132.	3	6	164.	2	5
5.	3	8	37.	2	4	69.	4	8	101.	1	3	133.	3	4	165.	2	5
6.	4	4	38.	2	4	70.	4	8	102.	1	3	134.	2	4	166.	2	4
7.	4	8	39.	2	4	71.	4	8	103.	1	2	135.	2	4	167.	1	4
8.	4	8	40.	3	4	72.	3	8	104.	1	2	136.	2	4	168.	1	4
9.	4	8	41.	3	4	73.	2	4	105.	4	8	137.	1	3	169.	1	4
10.	2	2	42.	4	8	74.	2	4	106.	4	8	138.	1	3	170.	1	3
11.	3	4	43.	2	4	75.	2	5	107.	4	8	139.	1	3	171.	1	3
12.	2	4	44.	2	8	76.	2	4	108.	4	8	140.	3	8	172.	1	3
13.	2	3	45.	3	8	77.	2	4	109.	2	4	141.	3	6	173.	1	3
14.	2	4	46.	4	8	78.	1	2	110.	2	4	142.	3	8	174.	1	3
15.	2	4	47.	2	4	79.	1	3	111.	2	4	143.	2	6	175.	1	3
16.	2	2	48.	4	8	80.	1	3	112.	2	4	144.	2	6	176.	2	4
17.	2	2	49.	2	3	81.	2	3	113.	2	4	145.	1	5			
18.	2	4	50.	8	8	82.	4	8	114.	1	3	146.	1	4			
19.	2	4	51.	8	8	83.	4	8	115.	1	3	147.	1	4			
20.	4	8	52.	4	8	84.	4	8	116.	1	2	148.	1	4			
21.	4	8	53.	4	8	85.	4	8	117.	1	2	149.	4	8			
22.	2	4	54.	3	8	86.	4	8	118.	3	6	150.	4	6			
23.	4	8	55.	4	4	87.	4	8	119.	3	4	151.	2	6			
24.	4	8	56.	2	2	88.	3	7	120.	3	4	152.	3	5			
25.	3	2	57.	2	2	89.	2	4	121.	3	4	153.	2	6			
26.	0	2	58.	3	8	90.	2	4	122.	2	4	154.	2	4			
27.	3	4	59.	1	2	91.	2	4	123.	2	4	155.	2	4			
28.	4	4	60.	1	2	92.	1	3	124.	2	3	156.	1	4			
29.	3	8	61.	2	2	93.	1	3	125.	2	3	157.	1	3			
30.	2	3	62.	2	2	94.	2	3	126.	1	3	158.	1	3			
31.	4	8	63.	2	2	95.	1	3	127.	1	3	159.	1	3			
32.	2	4	64.	2	2	96.	1	2	128.	1	3	160.	3	7			

**APPENDIX XVI: NUMBER OF LIBRARIES AND KCSE MEANSORE**

SCH	LIB	KCSE	SCH	LIB	KCSE	SCH	LIB	KCSE	SCH	LIB	KCSE	SCH	LIB	KCSE	SCH	LIB	KCSE
1	1	4.35	33	2	6.12	63.	1	3.39	95.	0	3.96	127	0	4.15	159	0	2.50
2	0	4.86	34	0	5.35	64.	1	3.47	96	0	3.69	128	0	3.56	160	1	7.42
3	1	5.38	35	0	5.40	65.	0	3.70	97	0	3.57	129	2	8.38	161	1	6.96
4	1	5.59	36	0	3.75	66.	0	3.88	98	0	3.57	130	1	8.18	162	1	6.79
5	1	6.85	37	1	8.46	67.	0	3.90	99	0	3.38	131	1	7.25	163	1	6.14
6	2	7.98	38	1	5.4	68.	0	4.35	100	0	3.30	132	1	5.46	164	1	5.92
7	2	7.50	39	1	5.84	69.	3	8.69	101	0	2.93	133	1	5.4	165	1	5.88
8	1	6.29	40	0	3.47	70.	1	6.40	102	0	2.79	134	1	5.34	166	1	5.41
9	1	6.28	41	1	5.85	71.	1	6.07	103	0	2.78	135	1	4.96	167	1	5.22
10	0	7.37	42	1	6.95	72.	2	5.94	104	0	2.35	136	1	4.86	168	1	4.92
11	0	4.58	43	1	7.04	73.	2	5.89	105	2	10.18	137	0	4.0	169	1	2.29
12	1	4.37	44	1	8.91	74.	1	5.71	106	2	8.23	138	0	3.83	170	0	4.14
13	0	4.33	45	3	9.44	75.	1	5.00	107	1	7.41	139	0	3.40	171	0	3.73
14	1	4.24	46	2	9.48	76.	1	4.77	108	0	5.45	140	1	7.68	172	0	3.63
15	0	3.67	47	1	7.50	77.	0	4.65	109	0	4.89	141	1	5.66	173	0	3.36
16	0	3.33	48	1	8.18	78.	1	4.21	110	0	4.78	142	1	4.92	174	0	3.14
17	0	4.00	49	0	4.27	79.	0	3.84	111	0	4.52	143	1	5.55	175	0	2.91
18	0	4.10	50	1	4.71	80.	0	3.50	112	0	4.48	144	1	4.89	176	0	2.87
19	0	7.80	51	1	5.39	81.	0	2.90	113	1	4.33	145	1	4.38			
20	2	8.21	52	1	6.11	82.	2	9.04	114	0	3.90	146	0	3.81			
21	1	8.79	53	1	7.19	83.	2	7.71	115	0	3.61	147	0	3.44			
22	1	3.56	54	2	7.79	84.	1	7.32	116	0	3.17	148	0	2.71			
23	1	4.16	55	1	6.71	85.	1	7.23	117	0	2.44	149	2	8.73			
24	1	4.23	56	0	6.17	86.	2	6.82	118	1	7.23	150	1	6.54			
25	0	4.33	57	1	5.83	87.	1	6.05	119	1	6.57	151	1	6.22			
26	0	4.59	58	0	2.94	88.	1	5.36	120	1	6.25	152	1	5.54			
27	0	5.07	59	0	3.03	89.	1	5.29	121	1	5.93	153	1	5.40			
28	0	5.47	60	1	5.73	90.	0	5.26	122	0	5.3	154	1	5.15			
29	1	5.34	61	0	3.76	91.	0	5.12	123	1	4.73	155	1	4.72			
30	0	5.19	62	0	2.76	92.	0	4.80	124	1	4.56	156	0	4.24			
31			63	0	3.17	93.	0	4.50	125	0	4.42	157	0	3.74			
32			64	0	3.10	94.	0	4.30	126	0	4.16	158	0	3.72			

**APPENDIX XVII: PLAYGROUNDS**

SCH	PG	SCH	PG	SCH	PG	SCH	PG	SCH	PG	SCH	PG
1	1	33	1	65	0	97	0	129	2	161	1
2	1	34	1	66	1	98	0	130	1	162	1
3	1	35	1	67	0	99	0	131	1	163	1
4	2	36	1	68	1	100	0	132	1	164	1
5	1	37	1	69	2	101	0	133	1	165	1
6	2	38	0	70	1	102	0	134	1	166	1
7	0	39	1	71	1	103	0	135	1	167	1
8	1	40	1	72	1	104	0	136	1	168	1
9	1	41	1	73	1	105	2	137	0	169	1
10	1	42	2	74	1	106	2	138	0	170	0
11	1	43	3	75	1	107	1	139	0	171	0
12	1	44	2	76	0	108	1	140	1	172	0
13	0	45	2	77	0	109	0	141	1	173	0
14	1	46	1	78	0	110	0	142	1	174	0
15	0	47	1	79	0	111	0	143	1	175	0
16	0	48	1	80	0	112	0	144	1	176	0
17	0	49	1	81	0	113	0	145	0		
18	0	50	1	82	2	114	0	146	0		
19	1	51	1	83	1	115	0	147	0		
20	2	52	2	84	1	116	0	148	0		
21	2	53	1	85	1	117	0	149	2		
22	1	54	1	86	1	118	1	150	1		
23	0	55	1	87	1	119	1	151	1		
24	1	56	1	88	1	120	1	152	1		
25	1	57	1	89	1	121	1	153	1		
26	1	58	1	90	0	122	1	154	1		
27	0	59	1	91	0	123	0	155	1		
28	1	60	0	92	0	124	0	156	0		
29	1	61	0	93	0	125	0	157	0		
30	1	62	0	94	0	126	0	158	0		
31	1	63	1	95	0	127	0	159	0		
32	1	64	1	96	0	128	0	160	0		

**APPENDIX XVIII: AVERAGE CLASS SIZE**

<b>SCH</b>	<b>AV</b>	<b>SCH</b>	<b>AV</b>	<b>SCH</b>	<b>AV</b>	<b>SCH</b>	<b>AV</b>	<b>SCH</b>	<b>AV</b>	<b>SCH</b>	<b>AV</b>
1.	50	33	35	65	30	97	35	129	60	161	55
2.	45	34	55	66	45	98	40	130	45	162	55
3.	65	35	50	67	30	99	50	131	45	163	45
4.	60	36	55	68	45	100	30	132	50	164	35
5.	35	37	40	69	55	101	20	133	55	165	45
6.	50	38	30	70	45	102	35	134	40	166	45
7.	55	39	40	71	45	103	35	135	55	167	55
8.	45	40	50	72	45	104	55	136	60	168	50
9.	50	41	50	73	20	105	55	137	55	169	50
10.	35	42	50	74	40	106	65	138	55	170	30
11.	60	43	40	75	40	107	55	139	35	171	30
12.	45	44	60	76	35	108	55	140	45	172	35
13.	30	45	50	77	40	109	45	141	60	173	35
14.	55	46	40	78	25	110	30	142	55	174	30
15.	40	47	45	79	55	111	30	143	35	175	40
16.	30	48	42	80	40	112	45	144	45	176	43
17.	35	49	50	81	30	113	50	145	45		
18.	35	50	55	82	50	114	45	146	40		
19.	45	51	55	83	55	115	45	147	18		
20.	55	52	50	84	35	116	35	148	55		
21.	45	53	60	85	45	117	30	149	55		
22.	30	54	50	86	55	118	50	150	45		
23.	40	55	40	87	40	119	60	151	45		
24.	45	56	55	88	55	120	55	152	45		
25.	45	57	35	89	45	121	40	153	45		
26.	40	58	50	90	50	122	55	154	50		
27.	35	58	45	91	70	123	35	155	55		
28.	45	60	30	92	40	124	45	156	45		
29.	45	61	35	93	35	125	35	157	35		
30.	30	62	30	94	50	126	45	158	55		
31.	50	63	50	95	35	127	35	159	35		
32.	65	64	50	96	30	128	35	160	50		

**APPENDIX XIX: STAFF HOUSES**

SCH	SH	SCH	SH	SCH	SH	SCH	SH	SCH	SH	SCH	SH
1.	2	33	0	65	0	97	0	129	20	161	5
2.	0	34	0	66	0	98	0	130	15	162	15
3.	2	35	4	67	0	99	0	131	5	163	0
4.	29	36	9	68	0	100	0	132	10	164	0
5.	10	37	0	69	30	101	0	133	10	165	2
6.	15	38	0	70	10	102	0	134	3	166	0
7.	10	39	0	71	10	103	0	135	0	167	8
8.	2	40	2	72	5	104	0	136	2	168	0
9.	4	41	0	73	0	105	30	137	2	169	3
10.	0	42	25	74	0	106	15	138	0	170	0
11.	0	43	40	75	0	107	15	139	0	171	0
12.	0	44	20	76	5	108	4	140	15	172	0
13.	3	45	8	77	5	109	0	141	0	173	0
14.	0	46	6	78	0	110	0	142	10	174	0
15.	0	47	0	79	0	111	0	143	0	175	0
16.	0	48	5	80	0	112	10	144	5	176	5
17.	0	49	0	81	0	113	5	145	0		
18.	0	50	2	82	30	114	5	146	0		
19.	0	51	6	83	10	115	0	147	0		
20.	30	52	10	84	10	116	0	148	0		
21.	20	53	6	85	15	117	0	149	20		
22.	10	54	0	86	30	118	2	150	10		
23.	4	55	0	87	15	119	10	151	4		
24.	6	56	0	88	10	120	5	152	0		
25.	0	57	0	89	10	121	5	153	10		
26.	0	58	5	90	1	122	3	154	5		
27.	0	59	0	91	2	123	0	155	2		
28.	0	60	0	92	0	124	0	156	2		
29.	10	61	0	93	0	125	0	157	0		
30.	0	62	0	94	1	126	0	158	0		
31.	3	63	5	95	0	127	0	159	0		
32.	0	64	0	96	0	128	0	160	0		

**APPENDIX XX: BOOK –STUDENT RATIO**

<b>SCH</b>	<b>BSR</b>	<b>SCH</b>	<b>BSR</b>	<b>SCH</b>	<b>BSR</b>	<b>SCH</b>	<b>BSR</b>	<b>SCH</b>	<b>BSR</b>	<b>SCH</b>	<b>BSR</b>
1.	1:3	33	1:3	65	1:3	97	1:6	129	1:1	161	1:2
2.	1:3	34	1:5	66	1:3	98	1:6	130	1:2	162	1:3
3.	1:3	35	1:2	67	1:3	99	1:7	131	1:2	163	1:3
4.	1:2	36	1:1	68	1:5	100	1:7	132	1:3	164	1:4
5.	1:2	37	1:3	69	1:2	101	1:7	133	1:4	165	1:4
6.	1:2	38	1:3	70	1:3	102	1:7	134	1:4	166	1:4
7.	1:2	39	1:3	71	1:3	103	1:7	135	1:4	167	1:4
8.	1:3	49	1:3	72	1:4	104	1:7	136	1:4	168	1:4
9.	1:3	41	1:3	73	1:5	105	1:1	137	1:5	169	1:5
10.	1:3	42	1:2	74	1:4	106	1:2	138	1:5	170	1:5
11.	1:3	43	1:1	75	1:5	107	1:2	139	1:6	171	1:6
12.	1:3	44	1:2	76	1:5	108	1:3	140	1:2	172	1:6
13.	1:3	45	1:2	77	1:5	109	1:4	141	1:3	173	1:6
14.	1:4	46	1:2	78	1:6	110	1:4	142	1:3	174	1:7
15.	1:3	47	1:2	79	1:6	111	1:4	143	1:4	175	1:7
16.	1:4	48	1:2	80	1:6	112	1:5	144	1:4	176	1:7
17.	1:3	49	1:3	81	1:7	113	1:5	145	1:4		
18.	1:3	50	1:2	82	1:2	114	1:6	146	1:5		
19.	1:3	51	1:3	83	1:1	115	1:6	147	1:6		
20.	1:2	52	1:2	84	1:2	116	1:6	148	1:7		
21.	1:2	53	1:2	85	1:3	117	1:7	149	1:1		
22.	1:2	54	1:4	86	1:3	118	1:2	150	1:3		
23.	1:1	55	1:4	87	1:3	119	1:3	151	1:3		
24.	1:1	56	1:3	88	1:4	120	1:2	152	1:4		
25.	1:3	57	1:3	89	1:4	121	1:3	153	1:4		
26.	1:3	58	1:3	90	1:4	122	1:3	154	1:5		
27.	1:3	59	1:5	91	1:5	123	1:4	155	1:5		
28.	1:2	60	1:3	92	1:4	124	1:4	156	1:5		
29.	1:2	61	1:3	93	1:5	125	1:4	157	1:6		
30.	1:3	62	1:3	94	1:4	126	1:5	158	1:6		
31.	1:2	63	1:3	95	1:5	127	1:5	159	1:7		
32.	1:3	64	1:3	96	1:5	128	1:6	160	1:2		



**APPENDIX XXI: TEACHER-STUDENT RATIO**

<b>SCH</b>	<b>TSR</b>	<b>SCH</b>	<b>TSR</b>	<b>SCH</b>	<b>TSR</b>	<b>SCH</b>	<b>TSR</b>	<b>SCH</b>	<b>TSR</b>	<b>SCH</b>	<b>TSR</b>
1.	1:22	33	1:12	65	1:9	97	1:11	129	1:20	161	1:20
2.	1:24	34	1:18	66	1:13	98	1:15	130	1:19	162	1:15
3.	1:22	35	1:15	67	1:9	99	1:16	131	1:12	163	1:16
4.	1:20	36	1:28	68	1:16	100	1:11	132	1:15	164	1:11
5.	1:15	37	1:18	69	1:20	101	1:9	133	1:19	165	1:14
6.	1:20	38	1:9	70	1:16	102	1:9	134	1:12	166	1:10
7.	1:20	39	1:19	71	1:17	103	1:10	135	1:11	167	1:20
8.	1:13	40	1:18	72	1:15	104	1:12	136	1:15	168	1:16
9.	1:20	41	1:10	73	1:11	105	1:20	137	1:17	169	1:15
10.	1:11	42	1:17	74	1:10	106	1:20	138	1:12	170	1:9
11.	1:16	43	1:13	75	1:19	107	1:19	139	1:10	171	1:11
12.	1:17	44	1:20	76	1:15	108	1:16	140	1:20	172	1:10
13.	1:11	45	1:20	77	1:10	109	1:12	141	1:16	173	1:9
14.	1:16	6	1:22	78	1:11	110	1:9	142	1:17	174	1:11
15.	1:11	47	1:14	79	1:14	111	1:9	143	1:11	175	1:10
16.	1:9	48	1:16	80	1:9	112	1:14	144	1:15	176	1:11
17.	1:11	49	1:16	81	1:9	113	1:15	145	1:16		
18.	1:11	50	1:20	82	1:20	114	1:16	146	1:15		
19.	1:14	51	1:17	83	1:15	115	1:12	147	1:9		
20.	1:20	52	1:27	84	1:16	116	1:9	148	1:10		
21.	1:20	53	1:23	85	1:20	117	1:11	149	1:16		
22.	1:10	54	1:14	86	1:22	118	1:15	150	1:17		
23.	1:19	55	1:17	87	1:21	119	1:21	151	1:15		
24.	1:13	56	1:13	88	1:20	120	1:16	152	1:17		
25.	1:13	57	1:9	89	1:15	121	1:14	153	1:20		
26.	1:18	58	1:10	90	1:10	122	1:11	154	1:16		
27.	1:11	59	1:16	91	1:16	123	1:12	155	1:15		
28.	1:22	60	1:9	92	1:16	124	1:10	156	1:17		
29.	1:17	61	1:11	93	1:11	125	1:9	157	1:11		
30.	1:11	62	1:9	94	1:15	126	1:11	158	1:14		
31.	1:17	63	1:21	95	1:12	127	1:13	159	1:9		
32.	1:20	64	1:22	96	1:11	128	1:10	160	1:10		

**APPENDIX XXII: FREQUENCY OF TESTING POLICY**

SCH	F	SCH	F	SCH	F	SCH	F	SCH	F	SCH	F
1.	3	33	3	65	2	97	2	129	4	161	4
2.	3	34	2	66	2	98	2	130	4	162	4
3.	3	35	4	67	2	99	2	131	4	163	3
4.	4	36	4	68	2	100	2	132	3	164	3
5.	3	37	3	69	4	101	2	133	3	165	3
6.	3	38	2	70	3	102	2	134	3	166	3
7.	4	39	3	71	3	103	2	135	3	167	3
8.	3	40	3	72	2	104	2	136	3	168	3
9.	3	41	3	73	3	105	4	137	2	169	3
10.	3	42	4	74	3	106	4	138	2	170	3
11.	3	43	4	75	2	107	4	139	2	171	2
12.	3	44	4	76	2	108	4	140	4	172	2
13.	3	45	4	77	2	109	3	141	3	173	2
14.	3	46	4	78	2	110	3	142	3	174	2
15.	2	47	3	79	2	111	3	143	3	175	2
16.	2	48	3	80	2	112	3	144	3	176	2
17.	3	49	3	81	2	113	3	145	3	177	2
18.	3	50	3	82	4	114	2	146	2	176	2
19.	3	51	3	83	4	115	2	147	2		
20.	4	52	4	84	4	116	2	148	2		
21.	4	53	4	85	4	117	2	149	4		
22.	3	54	3	86	4	118	4	150	4		
23.	4	55	3	87	3	119	4	151	4		
24.	3	56	2	88	3	120	3	152	3		
25.	3	57	2	89	3	121	3	153	3		
26.	3	58	3	90	3	122	3	154	3		
27.	2	59	2	91	3	123	3	155	3		
28.	2	60	2	92	3	124	3	156	2		
29.	3	61	3	93	3	125	3	157	2		
30.	3	62	2	94	2	126	2	158	2		
31.	4	63	3	95	2	127	2	159	2		
32.	3	64	2	96	2	128	2	160	4		

**APPENDIX XXIII: LABORATORY (FREQUENCY OF USE PER WEEK)**

SCH	F	SCH	F	SCH	F	SCH	F	SCH	F	SCH	F
1.	2	33	2	65	2	97	1	129	5	161	4
2.	2	34	2	66	2	98	1	130	5	162	4
3.	2	35	4	67	2	99	1	131	4	163	3
4.	3	36	5	68	2	100	1	132	4	164	3
5.	3	37	3	69	5	101	1	133	3	165	3
6.	4	38	2	70	4	102	1	134	3	166	2
7.	4	39	2	71	4	103	1	135	3	167	2
8.	3	40	3	72	3	104	1	136	3	168	2
9.	3	41	3	73	3	105	5	137	2	169	2
10.	3	42	3	74	3	106	5	138	2	170	2
11.	2	43	5	75	2	107	4	139	2	171	1
12.	3	44	4	76	2	108	4	140	4	172	1
13.	3	45	4	77	1	109	4	141	3	173	1
14.	3	46	6	78	1	110	3	142	3	174	1
15.	2	47	2	79	1	111	2	143	3	175	1
16.	2	48	2	80	1	112	2	144	2	176	1
17.	2	49	3	81	1	113	2	145	2		
18.	2	50	4	82	5	114	1	146	1		
19.	3	51	4	83	4	115	1	147	1		
20.	5	52	4	84	4	116	1	148	1		
21.	4	53	4	85	4	117	1	149	5		
22.	3	54	1	86	3	118	3	150	4		
23.	4	55	3	87	3	119	2	151	3		
24.	4	56	2	88	2	120	2	152	3		
25.	2	57	2	89	2	121	2	153	2		
26.	2	58	3	90	2	122	2	154	2		
27.	2	59	2	91	2	123	2	155	1		
28.	3	60	2	92	1	124	1	156	1		
29.	3	61	2	93	1	125	1	157	1		
30.	2	62	2	94	1	126	1	158	1		
31.	4	63	2	95	1	127	1	159	1		
32.	2	64	2	96	1	128	1	160	1		

**APPENDIX XXIV: ELECTRICITY (UNITS USED MONTHLY)IN K/WATTS**

<b>SCH</b>	<b>K/W</b>	<b>SCH</b>	<b>K/W</b>	<b>SCH</b>	<b>K/W</b>	<b>SCH</b>	<b>K/W</b>	<b>SCH</b>	<b>K/W</b>	<b>SCH</b>	<b>K/W</b>
1.	70	33	0	65	0	97	0	129	150	161	100
2.	0	34	0	66	0	98	0	130	120	162	100
3.	0	35	50	67	0	99	0	131	100	163	0
4.	120	36	50	68	0	100	0	132	90	164	0
5.	100	37	30	69	150	101	60	133	100	165	0
6.	100	38	0	70	95	102	0	134	70	166	0
7.	100	39	30	71	90	103	0	135	0	167	100
8.	60	40	50	72	80	104	0	136	0	168	120
9.	80	41	0	73	80	105	150	137	0	169	100
10.	0	42	90	74	60	106	120	138	0	170	0
11.	50	43	100	75	0	107	100	139	0	171	0
12.	60	44	150	76	70	108	100	140	120	172	0
13.	0	45	90	77	65	109	0	141	60	173	0
14.	0	46	100	78	0	110	0	142	100	174	0
15.	0	47	0	79	60	111	50	143	60	175	0
16.	0	48	80	80	50	112	80	144	0	176	70
17.	0	49	0	81	50	113	60	145	0		
18.	0	50	80	82	150	114	0	146	0		
19.	0	51	90	83	100	115	0	147	60		
20.	100	52	150	84	90	116	0	148	70		
21.	80	53	100	85	80	117	0	149	120		
22.	50	54	50	86	130	118	60	150	100		
23.	70	55	60	87	80	119	70	151	70		
24.	80	56	60	88	70	120	60	152	0		
25.	50	57	0	89	70	121	60	153	60		
26.	0	58	40	90	0	122	60	154	0		
27.	0	59	0	91	0	123	0	155	0		
28.	0	60	0	92	0	124	0	156	0		
29.	80	61	0	93	0	125	0	157	0		
30.	0	62	0	94	0	126	0	158	0		
31.	100	63	100	95	0	127	0	159	70		
32.	0	64	0	96	0	128	0	160	100		

**APPENDIX XXV: WATER (AMOUNT USED DAILY) IN LITRES**

<b>SCH</b>	<b>H<sub>2</sub>O</b>	<b>SCH</b>	<b>H<sub>2</sub>O</b>	<b>SCH</b>	<b>H<sub>2</sub>O</b>	<b>SCH</b>	<b>H<sub>2</sub>O</b>	<b>SCH</b>	<b>H<sub>2</sub>O</b>	<b>SCH</b>	<b>H<sub>2</sub>O</b>
1.	600	33	500	65	400	97	500	129	2000	161	1000
2.	600	34	500	66	400	98	500	130	2000	162	1500
3.	800	35	1000	67	400	99	400	131	1000	163	900
4.	1500	36	2000	68	400	100	450	132	700	164	600
5.	1500	37	700	69	5000	101	400	133	1000	165	700
6.	1000	38	400	70	2000	102	400	134	900	166	500
7.	1000	39	500	71	1500	103	400	135	500	167	900
8.	500	40	2000	72	1000	104	500	136	600	168	800
9.	700	41	1000	73	1000	105	3000	137	600	169	700
10.	400	42	3000	74	500	106	2000	138	500	170	500
11.	500	43	5000	75	500	107	1500	139	500	171	500
12.	500	44	6000	76	700	108	1000	140	2000	172	500
13.	500	45	900	77	800	109	600	141	600	173	500
14.	500	46	1000	78	500	110	500	142	6000	174	500
15.	400	47	500	79	600	111	500	143	900	175	500
16.	400	48	1000	80	700	112	900	144	600	176	1500
17.	500	49	500	81	600	113	600	145	600		
18.	500	50	700	82	3000	114	700	146	600		
19.	400	51	900	83	1500	115	500	147	500		
20.	3000	52	1500	84	1500	116	500	148	500		
21.	2000	53	900	85	1500	117	500	149	800		
22.	1000	54	300	86	2000	118	900	150	2000		
23.	1000	55	500	87	1000	119	1500	151	1500		
24.	1000	56	700	88	1500	120	1000	152	500		
25.	400	57	500	89	1000	121	800	153	1500		
26.	500	58	1000	90	500	122	700	154	900		
27.	300	59	400	91	500	123	500	155	600		
28.	600	60	400	92	500	124	500	156	700		
29.	1000	61	500	93	500	125	500	157	500		
30.	400	62	400	94	500	126	500	158	500		
31.	900	63	800	95	600	127	500	159	500		
32.	500	64	700	96	600	128	500	160	900		

**APPENDIX XXVI: LATRINES**

<b>SCH</b>	<b>NO.</b>	<b>SCH</b>	<b>NO</b>	<b>SCH</b>	<b>NO</b>	<b>SCH</b>	<b>NO</b>	<b>SCH</b>	<b>NO</b>	<b>SCH</b>	<b>NO</b>
1.	19	33	12	65	16	97	15	129	30	161	20
2.	19	34	15	66	16	98	17	130	25	162	25
3.	22	35	25	67	12	99	15	131	20	163	20
4.	16	36	20	68	15	100	16	132	25	164	14
5.	16	37	20	69	40	101	15	133	25	165	15
6.	20	38	15	70	25	102	17	134	19	166	15
7.	25	39	12	71	25	103	15	135	17	167	20
8.	17	40	20	72	20	104	18	136	18	168	18
9.	22	41	15	73	17	105	30	137	15	169	19
10.	11	42	25	74	19	106	30	138	16	170	14
11.	16	43	40	75	16	107	25	139	15	171	15
12.	17	44	40	76	18	108	25	140	30	172	14
13.	11	45	25	77	20	109	17	141	16	173	14
14.	18	46	25	78	15	110	15	142	30	174	15
15.	15	47	15	79	20	111	15	143	14	175	16
16.	15	48	25	80	15	112	20	144	19	176	25
17.	17	49	20	81	20	113	20	145	15		
18.	17	50	15	82	40	114	24	146	14		
19.	16	51	20	83	15	115	17	147	14		
20.	40	52	25	84	15	116	17	148	15		
21.	30	53	25	85	25	117	15	149	20		
22.	15	54	15	86	40	118	20	150	15		
23.	20	55	12	87	30	119	25	151	19		
24.	19	56	16	88	25	120	20	152	15		
25.	15	57	18	89	15	121	15	153	20		
26.	20	58	17	90	15	122	15	154	19		
27.	10	59	15	91	16	123	17	155	17		
28.	19	60	16	92	16	124	18	156	18		
29.	20	61	18	93	15	125	16	157	15		
30.	12	62	16	94	20	126	17	158	15		
31.	2	63	21	95	17	127	15	159	14		
32.	15	64	20	96	15	128	17	160	15		

**APPENDIX XXVII: PRINCIPAL'S AGE**

<b>SCH</b>	<b>AGE</b>	<b>SCH</b>	<b>AGE</b>	<b>SCH</b>	<b>AGE</b>	<b>SCH</b>	<b>AGE</b>	<b>SCH</b>	<b>AGE</b>	<b>SCH</b>	<b>AGE</b>
1.	46-55	33.	46-55	65	36-45	97	46-55	129	56-60	161	56-60
2.	36-45	34.	46-55	66	36-45	98	46-55	130	56-60	162	56-60
3.	36-45	35.	46-55	67	36-45	99	46-55	131	56-60	163	56-60
4.	36-45	36.	36-45	68	46-55	100	46-55	132	56-60	164	46-55
5.	36-45	37.	46-55	69	46-55	101	46-55	133	46-55	165	46-55
6.	46-55	38	36-45	70	46-55	102	46-55	134	56-60	166	46-55
7.	46-55	39	46-55	71	46-55	103	46-55	135	46-55	167	46-55
8.	46-55	40	46-55	72	46-55	104	46-55	136	46-50	168	56-60
9.	46-55	41	46-55	73	36-45	105	46-55	137	56-60	169	56-60
10.	46-55	42	46-55	74	46-55	106	46-55	138	56-60	170	56-60
11.	46-55	43	46-55	75	46-55	107	46-55	139	56-60	171	46-55
12.	56-60	44	46-55	76	46-55	108	46-55	140	56-60	172	46-55
13.	36-45	45	46-55	77	46-55	109	46-55	141	46-55	173	46-55
14.	36-45	46	46-55	78	56-60	110	46-55	142	56-60	174	46-55
15.	36-45	47	46-55	79	46-55	111	46-55	143	46-55	175	46-55
16.	36-45	48	46-55	80	46-55	112	56-60	144	46-55	176	36-45
17.	36-45	49	46-55	81	46-55	113	46-55	145	56-60		
18.	36-45	50	46-55	82	46-55	114	46-55	146	46-55		
19.	36-45	51	46-55	83	46-55	115	46-55	147	46-55		
20.	46-55	52	46-55	84	46-55	116	46-55	148	46-55		
21.	46-55	53	46-55	85	46-55	117	46-55	149	56-60		
22.	46-55	54	46-55	86	46-55	118	56-60	150	56-60		
23.	36-45	55	36-45	87	46-55	119	56-60	151	46-55		
24.	46-55	56	46-55	88	56-60	120	46-55	152	46-55		
25.	36-45	57	36-45	89	46-55	121	46-55	153	56-60		
26.	46-55	58	36-45	90	46-55	122	46-55	154	56-60		
27.	36-55	59	46-45	91	46-55	123	46-55	155	46-55		
28.	46-55	60	36-45	92	46-55	124	46-55	156	46-55		
29.	46-55	61	46-55	93	46-55	125	46-55	157	46-55		
30.	46-55	62	36-45	94	46-55	126	46-55	158	46-55		
31.	46-55	63	36-45	95	46-55	127	46-55	159	46-55		
32.	46-55	64	36-45	96	46-55	128	46-55	160	46-55		

**APPENDIX XXVIII: AVERAGE AGE (2011 COHORT)  
AVERAGE KCPE MARK (2011 COHORT)**

SC	KCPE	AGE	SC	KCPE	AGE	SC	KCPE	AGE	SC	KCPE	AGE	SC	KCPE	AGE	SC	KCPE	AGE
1.	250	18	33.	250	18	65.	200	18	97	200	19	129	390	18	161	350	18
2.	320	18	34.	220	19	66.	200	19	98	200	19	130	380	18	162	350	18
3.	280	18	35.	350	18	67.	220	19	99	220	19	131	360	18	163	350	18
4.	330	18	36.	320	17	68.	200	18	100	200	18	132	350	19	164	250	19
5.	360	18	37.	270	18	69.	390	18	101	180	19	133	350	19	165	280	19
6.	380	18	38.	220	19	70.	350	18	102	200	19	134	300	19	166	275	19
7.	350	18	39.	250	18	71	350	18	103	200	19	135	260	19	167	260	18
8.	280	18	40.	320	19	72	290	18	104	200	19	136	250	19	168	250	18
9.	300	18	41.	300	18	73	280	18	105	400	18	137	250	19	169	260	18
10.	220	18	42.	350	18	74	250	19	106	390	18	138	200	19	170	220	19
11.	240	18	43.	380	18	75	250	18	107	350	18	139	200	19	171	220	18
12.	250	18	44.	380	18	76	220	18	108	250	19	140	375	18	172	210	19
13.	220	18	45.	360	18	77	230	18	109	250	18	141	350	19	173	220	19
14.	250	19	46.	300	18	78	220	19	110	250	19	142	350	19	174	200	19
15.	220	19	47.	220	18	79	200	19	111	240	18	143	250	19	175	200	19
16.	200	19	48.	300	18	80	200	19	112	250	18	144	280	18	176	210	19
17.	220	18	49.	240	18	81	200	19	113	220	19	145	265	18			
18.	230	18	50.	250	18	82	380	18	114	230	18	146	250	19			
19.	250	18	51.	280	18	83	360	18	115	200	19	147	220	18			
20.	375	18	52.	300	17	84	350	17	116	210	18	148	220	18			
21.	360	17	53.	320	18	85	370	18	117	200	19	149	390	18			
22.	200	19	54.	220	19	86	350	18	118	350	19	150	350	18			
23.	250	18	55.	220	19	87	300	18	119	340	19	151	360	18			
24.	250	18	56.	230	19	88	250	18	120	340	18	152	250	18			
25.	250	18	57.	220	19	89	250	18	121	350	18	153	260	18			
26.	260	18	58.	270	18	90	220	18	122	250	18	154	250	19			
27.	220	18	59.	230	19	91	220	19	123	200	19	155	250	18			
28.	320	18	60.	200	19	92	200	18	124	220	19	156	250	19			
29.	350	18	61.	220	19	93	200	19	125	230	18	157	220	19			
30.	250	18	62.	220	19	94	210	19	126	200	19	158	220	18			
31.	300	17	63.	280	19	95	195	19	127	230	18	159	220	18			
32.	250	18	64.	250	19	96	200	18	128	200	19	160	380	18			



**APPENDIX XXIX: PRINCIPAL'S GENDER AND QUALIFICATION**

1	M	B.ED	33	F	B.ED	65	M	B.ED	97	M	B.ED	129	M	M.A	161	M	B.ED
2	M	B.ED	34	M	B.ED	66	F	B.ED	98	M	B.ED	130	M	M.ED	162	F	M.ED
3	M	M.ED	35	M	B.ED	67	F	B.ED	99	M	B.ED	131	M	M.ED	163	M	M.ED
4	F	B.ED	36	M	B.ED	68	F	B.ED	100	M	B.ED	132	M	B.ED	164	F	B.ED
5	F	B.ED	37	M	B.ED	69	M	M.ED	101	M	B.ED	133	M	B.ED	165	M	B.ED
6	M	B.ED	38	F	B.ED	70	F	M.ED	102	M	B.ED	134	M	B.ED	166	M	B.ED
7	M	B.ED	39	F	B.ED	71	F	B.ED	103	M	B.ED	135	M	B.ED	167	F	B.ED
8	F	B.ED	40	M	B.ED	72	F	B.ED	104	M	B.ED	136	F	B.ED	168	M	B.ED
9	M	B.ED	41	M	M.ED	73	M	B.ED	105	M	M.ED	137	M	B.ED	169	M	B.ED
10	M	B.ED	42	M	B.ED	74	M	B.ED	106	F	M.ED	138	M	B.ED	170	M	B.ED
11	M	B.ED	43	M	B.ED	75	F	B.ED	107	F	M.ED	139	M	B.ED	171	M	B.ED
12	F	B.ED	44	M	M.ED	76	F	B.ED	108	M	B.ED	140	M	M.ED	172	M	B.ED
13	F	B.ED	45	F	B.ED	77	F	B.ED	109	M	B.ED	141	M	M.ED	173	F	B.ED
14	M	B.ED	46	M	B.ED	78	M	B.ED	110	M	B.ED	142	M	B.ED	174	M	B.ED
15	M	B.ED	47	F	B.ED	79	M	B.ED	111	F	B.ED	143	M	B.ED	175	M	B.ED
16	F	B.ED	48	F	B.ED	80	M	B.ED	112	F	B.ED	144	M	B.ED	176	M	B.ED
17	M	B.ED	49	F	B.ED	81	M	B.ED	113	M	B.ED	145	M	B.ED			
18	M	B.ED	50	F	B.ED	82	F	M.ED	114	F	B.ED	146	M	B.ED			
19	M	B.ED	51	M	B.ED	83	M	M.ED	115	M	B.ED	147	M	B.ED			
20	F	B.ED	52	F	B.ED	84	M	M.ED	116	F	B.ED	148	M	B.ED			
21	F	B.ED	53	M	B.ED	85	F	M.ED	117	M	B.ED	149	F	M.ED			
22	F	B.ED	54	M	B.ED	86	M	M.ED	118	M	B.ED	150	F	M.ED			
23	M	B.ED	55	F	M.ED	87	M	B.ED	119	M	M.ED	151	M	B.ED			
24	F	B.ED	56	M	B.ED	88	F	M.ED	120	M	M.ED	152	M	B.ED			
25	F	B.ED	57	M	M.ED	89	F	B.ED	121	F	B.ED	153	M	B.ED			
26	M	B.ED	58	F	B.ED	90	F	B.ED	122	F	B.ED	154	M	B.ED			
27	F	B.ED	59	F	B.ED	91	F	B.ED	123	M	B.ED	155	F	B.ED			
28	M	B.ED	60	M	B.ED	92	M	B.ED	124	M	B.ED	156	M	B.ED			
29	F	B.ED	61	M	B.ED	93	M	B.ED	125	F	B.ED	157	M	B.ED			
30	M	B.ED	62	F	B.ED	94	M	B.ED	126	M	B.ED	158	M	B.ED			
31	M	B.ED	63	M	B.ED	95	M	B.ED	127	F	B.ED	159	M	B.ED			
32	M	B.ED	64	M	B.ED	96	F	B.ED	128	F	B.ED	160	M	B.ED			

**APPENDIX XXX: BURSARY ALLOCATIONS AND F.S.E FUNDS**

SCH	BURS	F.S.E	SCH	BURS	F.S.E	SCH	BURS	F.S.E	SCH	BURS	F.S.E	SCH	BURS	F.S.E	SCH	BURS	F.S.E
1	100,000	5,250,960	33	20,000	1,029,600	65	30,000	1,029,600	97	30,000	1,441,440	129	600,000	9,575,280	161	100,000	7,619,040
2	80,000	2,882,880	34	50,000	2,419,560	66	60,000	2,213,640	98	20,000	1,544,400	130	500,000	6,117,600	162	100,000	,236,800
3	150,000	3,346,200	35	1,000,000	9,111,960	67	50,000	1,029,600	99	20,000	2,471,040	131	450,000	4,015,440	163	86,000	4,118,400
4	150,000	7,670,520	36	50,000	9,060,480	68	50,000	2,059,200	100	15,000	1,029,600	132	350,000	6,795,360	164	100,000	1,338,480
5	500,000	3,397,680	37	70,000	3,861,000	69	,000,000	3,539,240	101	10,000	772,200	133	300,000	7,927,920	165	86,000	3,912,480
6	100,000	7,773,480	38	35,000	772,200	70	500,000	6,692,400	102	20,000	1,492,920	134	100,000	3,449,160	166	50,000	1,904,760
7	150,000	3,345,600	39	50,000	2,110,680	71	450,000	6,126,120	103	15,000	1,389,960	135	95,000	2,522,520	167	70,000	6,640,920
8	50,000	2,162,160	40	80,000	7,567,560	72	200,000	4,839,120	104	50,000	2,676,960	136	100,000	2,882,880	168	60,000	4,530,240
9	100,000	4,942,080	41	80,000	3,603,600	73	40,000	926,640	105	1,000,000	11,788,920	137	70,000	2,625,480	169	100,000	4,890,600
10	20,000	1,235,520	42	400,000	8,545,680	74	70,000	2,059,200	106	600,000	9,472,320	138	15,000	2,676,960	170	50,000	1,081,080
11	70,000	3,037,320	43	80,000	6,280,560	75	100,000	4,169,880	107	450,000	7,619,040	139	25,000	1,287,000	171	25,000	1,132,560
12	70,000	3,243,240	44	1,000,000	15,289,560	76	80,000	3,603,600	108	400,000	5,199,480	140	500,000	9,523,000	172	15,000	1,389,960
13	20,000	772,200	45	800,000	10,296,000	77	50,000	4,272,840	109	120,000	1,904,760	141	200,000	2,882,880	173	15,000	1,132,560
14	55,000	2,985,840	46	200,000	3,706,560	78	20,000	1,441,440	110	50,000	1,184,040	142	300,000	5,559,840	174	21,000	1,081,080
15	60,000	1,698,840	47	100,000	2,265,120	79	50,000	3,500,640	111	35,000	1,081,080	143	50,000	1,835,000	175	50,000	1,647,360
16	20,000	617,760	48	120,000	4,221,360	80	35,000	3,809,520	112	100,000	3,500,640	144	65,000	4,066,920	176	26,000	1,287,000
17	50,000	1,750,320	49	70,000	1,956,240	81	10,000	1,595,880	113	50,000	4,015,440	145	30,000	2,162,160			
18	50,000	1,492,920	50	240,000	4,272,840	82	1,000,000	15,083,640	114	60,000	3,706,560	146	15,000	1,595,880			
19	50,000	2,316,600	51	250,000	4,324,320	83	100,000	3,037,320	115	40,000	1,853,280	147	10,000	926,640			
20	1,000,000	14,774,760	52	300,000	10,296,000	84	96,000	3,861,000	116	20,000	1,184,040	148	20,000	2,368,080			
21	1,000,000	9,111,960	53	150,000	3,552,120	85	95,000	7,464,600	117	20,000	926,640	149	1,000,000	10,038,600			
22	50,000	823,680	54	80,000	,492,920	86	500,000	7,155,720	118	00,000	4,839,120	150	200,000	4,118,400			
23	40,000	3,240,000	55	80,000	2,053,000	87	500,000	7,155,720	119	50,000	772,200	151	200,000	4,015,440			
24			56			88			120			152					

	50,000	880,000		65,000	2,779,920		400,000	5,868,720		100,000	3,243,240		100,000	2,007,720			
<b>25</b>	90,000	1,698,840	<b>57</b>	60,000	1,904,760	<b>89</b>	200,000	4,633,200	<b>121</b>	150,000	3,603,600	<b>153</b>	180,000	6,898,320			
<b>26</b>	80,000	3,294,720	<b>58</b>	120,000	2,522,520	<b>90</b>	50,000	2,368,080	<b>122</b>	100,000	2,522,520	<b>154</b>	80,000	4,684,680			
<b>27</b>	50,000	772,220	<b>59</b>	50,000	1,287,000	<b>91</b>	30,000	3,861,000	<b>123</b>	85,000	1,544,760	<b>155</b>	85,000	2,728,440			
<b>28</b>	120,000	3,758,040	<b>60</b>	50,000	1,287,000	<b>92</b>	50,000	2,110,680	<b>124</b>	50,000	2,110,680	<b>156</b>	15,000	3,706,560			
<b>29</b>	100,000	4,272,840	<b>61</b>	50,000	1,853,280	<b>93</b>	20,000	1,544,400	<b>125</b>	20,000	1,235,520	<b>157</b>	20,000	1,184,040			
<b>30</b>	50,000	1,338,480	<b>62</b>	50,000	1,029,600	<b>94</b>	50,000	4,787,640	<b>126</b>	15,000	1,647,360	<b>158</b>	20,000	2,779,920			
<b>31</b>	200,000	18,841,680	<b>63</b>	100,000	5,559,840	<b>95</b>	50,000	1,698,840	<b>127</b>	10,000	1,081,080	<b>159</b>	25,000	1,338,480			
<b>32</b>	50,000	3,655,080	<b>64</b>	66,000	3,397,680	<b>96</b>	20,000	1,338,486	<b>128</b>	10,000	823,680	<b>160</b>	50,000	2,316,600			

**APPENDIX XXXI: INTRODUCTION LETTER**

ELIZABETH LUTTAH WASEKA  
MASENO UNIVERSITY  
P.O PRIVATE BAG  
**MASENO**

0720299157

To

The Principal

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.....  
.....

Dear Sir/Madam,

**RE: DATA COLLECTION IN YOUR SCHOOL**

I am a PhD student at Maseno University and having presented my proposal title ‘ Influence of selected Factors on Students’ Academic performance in Secondary Education in Kakamega County , Kenya in the faculty and it has passed through the School of Graduate Studies. It is a requirement that I go to the field and collect data so as to finalize my studies. This research will be done in Kakamega County Secondary schools and your school has been sampled for the study .

I intend to visit your school two weeks from now. I would kindly request th provision of the following documents as part of my study; class registers, fees registers, analysed KCSE results, library records and admission books and visitors books. The deputy principal and 10 form four students will be interviewed and the latter will participate in focused group discussion.

Thank you.

Yours faithfully

**Elizabeth Luttah**

**APPENDIX XXXII: DOCUMENTY ANALYSIS GUIDE**

<b>Objective</b>	<b>Subject matter under investigation</b>	<b>Documents used</b>	<b>Remarks</b>
Influence of student factors on student's academic performance	K.C.P.E mark/K.C.S.E performance  Absenteeism from School  Students' age  Participation in co-curricular activities  Exclusion of students from school	Analyzed KCSE results  Class registers  Admission book  Games records  Discipline records	
Influence of teachers factors on students' academic performance	Teaching load	Master timetable	
Influence of principals factors on students' academic performance	Principal's teaching load	Master time table	
Influence of school factors on students' academic performance	Consumption of electricity	Accounts Records	
Influence of government polices on Students' academic performance	Number of assessments by QASO  F.S.E funds Bursaries	Visitors book  Assessment report  Fees registers  Accounts records	