

Relationship between Academic Activities implemented and Students' Academic Performance in Public Secondary Schools in Kakamega County, Kenya

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ABSTRACT

Academic success in secondary schools is normally attributed to the principal who is expected to use leadership styles in designing, implementing and monitoring activities to enhance students' academic performance. There has been a decline in the percentage of the Kenya Certificate of Secondary Education (KCSE) examination candidates from Kakamega County who were selected to join public universities. For instance, in the years 2011, 2012, 2013, 2014 and 2015, 15.53%, 14.84%, 13.47%, 12.61% and 12.34% of the candidates respectively were selected to join universities. This was contrary to the national rising trend where 7.18%, 9.12%, 10.17%, 12.11% and 12.72% of the KCSE candidates in the years 2011, 2012, 2013, 2014 and 2015 respectively were selected to join public universities. The declining trend could hinder the realization of Sustainable Development Goals and the vision 2030. This study intended to establish the relationship between academic activities implemented and students' academic performance. The Transformational leadership model and a conceptual framework guided the study. Correlational and descriptive survey designs were adopted. Respondents were sampled by simple random sampling. Pre-testing of questionnaires for teachers and students was undertaken to ensure validity and reliability of the instruments. Data was collected from 30 principals, 199 teachers and 393 Form 4 students by use of questionnaire and interview schedule. Research experts determined validity of the instruments. Data was analyzed using descriptive statistics, frequencies, percentages, cross tabulation and Pearson's correlation. Hypotheses were tested through regression analysis at 0.05 level of significance. Results show that students being placed in streams as enrolled, joint examination, team teaching, contests and symposia had positive correlations with students' academic performance. Regression analysis reveals that academic activities implemented explained 39.6% of the variation in academic performance. Academic activities such as random placement of students in streams, joint exams with other schools, team teaching, contests and symposia significantly relates to academic performance. It was recommended that principals should implement academic activities that significantly relate to student academic performance. This study is significant to policy makers, principals, teachers and other education stakeholders in Kenya. The study would also form baseline information for future research.

Key words: Leadership styles, Academic activities and Students' academic performance

1.0 INTRODUCTION

1.1 Background Information

Complex organisations such as schools need principals with leadership characteristics to play an active role in steering the organisation towards excellence (Abrar et al., 2010). Educators and the general public have time and again expressed concern over factors that affect student performance in examinations. It is in schools that education takes place and it is there that the success or failure of the national educational objectives will be determined (Akyeampong, 2007). The most outstanding factor has to do with the organisational management of schools. For instance, Chimombo (2009) and Dakar Forum (2001) note that to improve students' performance, principals are required first to improve the management of the schools. This can be done by setting a clear vision for the schools and communicate this vision to the students, support its achievement by giving instructional leadership, provision of resources and being visible in every part of the institution. Lack of vision in the management of schools often leads to imbalance in the allocation and use of resources. This is why Day (2005) points out that, poor results in education are related to the resources allocated to it. If this parameter is not recognized, it becomes very difficult to understand why a school continues to perform poorly in national examinations. For example, in schools where parents are doing their best in providing school facilities such as science equipment, textbooks and physical structures, the blame for poor performance is shifted to teachers (Daaku, 2002). Both the government and parents expect teachers to perform better at their present levels of training. The whole issue of students' performance should be considered from the broad framework of input and output.

The principals' visionary and moral contributions are expected to give teachers direction and the ability to perform in school. The principals have the endowment to create such conditions. Many scholars have attributed, to a large extent, the success of schools to those in the helm of leadership (principals) (Wanderi, 2010; Wangara, 2008 & Yusof, 2012). School principals have a responsibility of removing administrative constraints that may prevent teachers from maximizing their efforts in rendering services to students. It is vital to note that teachers are key players in the school and the major determinants of school performance. Management of teachers in schools is bestowed upon principals who have a responsibility of making and enhancing every teacher's productivity (Government of Kenya, 2007). These responsibilities can be carried out more effectively with proper leadership styles for school leadership. According to Nandwah (2011), education stakeholders in Kenya have very high expectations of public secondary school principals because they believe that the success of a school is measured in terms of good performance in national examinations and the person responsible for this is the principal. World Bank (2008) observes that the increase in secondary education necessitates instituting responsible leadership in secondary education institutions. Performance of the academic institutions in meeting the goals and objectives of education in Kenya relies heavily on the type of leadership that prevails in the institutions and that many schools still perform poorly due to poor leadership. According to Mobegi, Ondigi and Oburu (2010), the quality of principals is a relevant indicator of quality in

schools and therefore underscored the importance of head teachers in school administration. To this extent, the Ministry of Education introduced a Diploma in Educational Management for head teachers and principals. The course administered by the Kenya Education Management Institute (KEMI) is meant to equip the school managers with requisite skills to manage and implement educational policies in a contemporary education sector (MoE, 2011). According to Lumosi and Mukonyi (2015), performance in the KCSE national examinations gives a picture of the level and quality of education and that Kakamega East and Kakamega central sub-counties experienced fluctuating results showing average and unsatisfactory academic performance over a period of five years from 2010 to 2014. This study therefore sought to establish the relationship between academic activities implemented and students' academic performance in Kakamega County of Kenya.

1.2 Statement of the Problem

Kenya like other countries is in the race to attaining Sustainable Development Goals (SDGs) alongside the Vision 2030 when it is expected to be an industrialized nation. Secondary schools continue to face pressure to attain these set standards and there are continuous efforts to improve student academic performance (World Bank, 2008). The GOK through KEMI has endeavoured to empower principals with requisite leadership skills for the management of schools to realize quality results in KCSE examination (MOE, 2007). Quality education in Kenya and world over is measured in terms of performance in examinations among other aspects. According to Kenya University and Colleges Central Placement Service (KUCCPS), in the years 2011, 2012, 2013, 2014 and 2015, there were 337,404, 357,488, 411,783, 437,762 and 449,246 candidates respectively registered for KCSE examination. Of these, 24,221; 32,611; 41,879; 53,010 and 57,150 of the candidates were selected to join Public Universities in Kenya in the years 2011, 2012, 2013, 2014 and 2015 respectively. This shows that 7.18%, 9.12%, 10.17%, 12.11% and 12.72% of the KCSE candidates in the year 2011, 2012, 2013, 2014 and 2015 respectively were selected to join public universities. It is therefore evident that the percentage of the KCSE candidates who were selected to join public universities increased from 2011 to 2015. According to the Kakamega County Director of Education, in the years 2011, 2012, 2013, 2014 and 2015 were 11,742, 12,154, 14,987, 16,205 and 18,741 candidates respectively registered for KCSE examination. Out of these, 1,824, 1,804, 2,018, 2,044 and 2,294 of the candidates were selected to join public universities in Kenya in the years 2011, 2012, 2013, 2014 and 2015 respectively. This indicates that the percentage of the KCSE candidates who were selected for public university admission in the years 2011, 2012, 2013, 2014 and 2015 was 15.53%, 14.84%, 13.47%, 12.61% and 12.34% respectively. This shows that there has been a decline in the percentage of KCSE candidates from Kakamega County who were selected to join public universities. Despite the fact that nationally, there was a rise in the percentage of the KCSE candidates who were selected for admission to public universities as from 2011 to 2015, this was not the case in Kakamega County. The problem of declining performance in examinations is costly for any country and especially Kenya since education is a major contributor to economic growth. This trend if allowed to go on may easily hinder the realization of SDGs and the Kenya's vision 2030. This study therefore sought to establish the relationship between academic

activities implemented and students' academic performance in public secondary schools in Kakamega County of Kenya.

1.3 Objective of the Study

The objective of this study was to examine the relationship between academic activities implemented and students' academic performance in public secondary schools in Kakamega County of Kenya.

1.4 Research Hypothesis

This study was guided by the following hypothesis:

H₀₁. There is no significant relationship between academic activities implemented and students' academic performance in public secondary schools in Kakamega County.

1.5 Scope of the Study

This study covered the Relationship between academic activities implemented and students' academic performance in public secondary schools of Kakamega County, Kenya. The study involved principals, teachers and Form 4 students as respondents. Data was collected by use of questionnaire and interview schedule.

1.6 Limitations of the Study

Since the study touched on the principal who was the chief executive officer in the school, some respondents were hesitant to give information and others were suspicious of the outcome of the study and therefore remained guarded in giving information in fear of victimization or discipline from the principal. This was overcome by the researcher informing them that the information was for the purpose of research only and would be treated with utmost confidentiality. In addition, it was overcome by corroborating data collected from different respondents. At the same time, to control the intervening variables, the researcher employed random sampling technique and collected data from a large proportion of respondents.

1.7 Significance of the Study

This study was expected to provide valuable insights on students' academic performance in public secondary schools to researchers in the education sector who can use the research findings to analyze the relationship between academic activities and academic performance in secondary schools in Kenya. This knowledge may also be used in evaluating the success of principals as leaders and provide information to policy makers and implementers who can use the information in designing strategies that can be used to enhance students' academic performance by appointing appropriate teachers to become principals. The findings of the study may also provide the stakeholders in education with data on how academic activities in secondary schools are being managed and in turn, the Government through the Ministry of Education may use the findings of this study to develop in-service training programmes at Kenya Education Management Institute (KEMI) that may help the principals adopt academic activities that can enhance students' academic performance. The study may contribute through the development of new knowledge, which the

teachers, principals and other education stakeholders can use to deal with the emerging issues in the students' academic performance.

1.8 Conceptual Framework

A conceptual framework that shows the interaction of variables in the relationship between academic activities implemented and students' academic performance in public secondary schools in Kakamega county of Kenya guided this study. The framework shows the indicators in the independent, dependent and intervening variables.

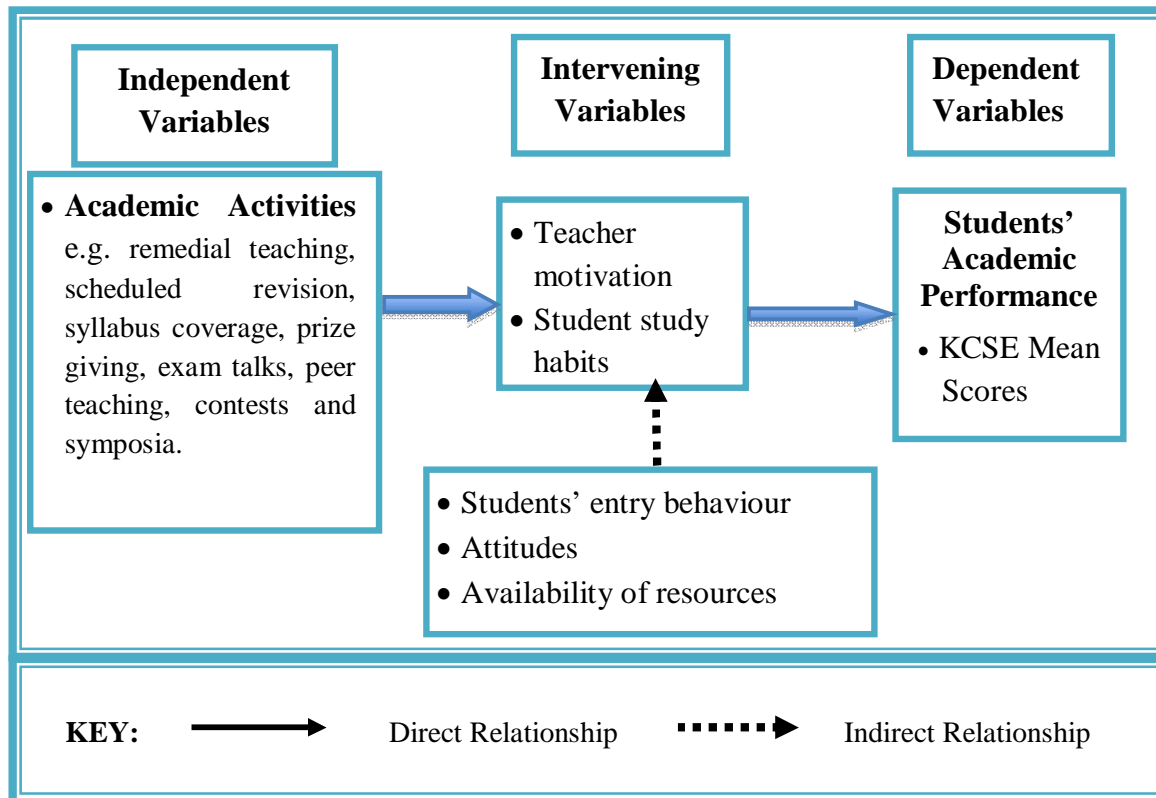


Figure 1.1: Relationship between Academic Activities and Students' Academic Performance

Source: Researcher (2016)

Figure 1.1, displays interaction of variables between academic activities and students' academic performance. The independent variable of the study is academic activities implemented. This influences teacher motivation, teacher effectiveness and student study habits that in turn influence the dependent variable that is students' academic performance that was measured by the mean scores in KCSE examination. However, independent and dependent variables do not occur in a vacuum. They operate in an environment. Therefore, intervening variables such as attitude, entry behaviour and availability of resources come into play and indirectly affect the students' academic performance. These factors when they complement the academic activities implemented, there is higher teacher motivation, effective teachers and good student study habits which lead to higher

mean scores and quality student grades in KCSE examinations are realized. However, the opposite would occur when there is weak entry behaviour, negative attitudes and inadequate resources leading to low teacher motivation, less effective teachers and poor student study habits. This would ultimately contribute to poor academic performance in KCSE examinations.

2.0 MATERIALS AND METHODS

2.1 Research Design

Research design can be defined as the means to collect data in order to answer questions concerning current status of the subject in the study (Okoth, 2012 & Clark, 2009). This study employed both descriptive survey and correlational research designs. Descriptive survey is an observational research design that focuses on determining the status of a defined population, phenomenon, situation or condition being studied (Mugenda & Mugenda, 2003). It establishes the pertinent facts that the research intends to establish without necessarily manipulating the variables of the study (Koul, 1992). Blaxter (1996) states that survey research in education involves the collection of information from members of a group of students, teachers or other persons associated with the educational process and the analysis of this information to address important educational issues while Bell (1999) indicates that descriptive survey necessitates data collection to provide information about existing status of the phenomenon on the ground. According to Orodho (2009), correlational design analyses the relationship between variables with the aim of establishing between the dependent and independent variables. In this case, this study sought to establish relationships between principals' leadership styles and students' academic performance and making predictions once the survey identifies and accurately describes the important variables in the study. These designs were deemed appropriate because they have been found to offer to social scientists and educators a systematic and logical method of collecting data for the purpose of measuring sample characteristics and establishing facts that result in formulation of important principles of knowledge about populations that are too large to be observed directly (Mugenda & Mugenda, 2003; Koul, 1992).

2.2 Location of the Study

Kakamega County is located in the former Western Province of Kenya. It has a population of 1,660,651 and an area of 3,224.8 km². The county lies between latitudes 0° 30' North and 0° 25' North and longitudes 34° East and 35° East. It has 11 constituencies namely: Lugari, Ikolomani, Mumias East, Mumias West, Likuyani, Malava, Navakholo, Shinyalu, Butere, Lurambi and Khwisero (IEBC, 2013). It is located at an altitude of 1520 – 1680 metres above sea level. The rainfall amounts of the study area range from about 1200 mm p.a to 2000mm p.a which is bimodal (occurs in two rainy seasons that is the long and short rains) with the long rains occurring in the month of April to June while the short rains occurring in the month of October to November and short dry season in the month of December to March. The rainfall is distributed more or less uniformly throughout the year except for the month of November to February. The daytime temperature is about 30.8° C whereas at night they drop to up to 9°C with yearly mean of about

20.5°C. The main economic activity in the study area is agricultural with 62% of the population involved in agriculture and mainly crop farming especially maize and beans are grown in the area for subsistence use. Sugarcane farming is major agricultural activity of the area and mainly done on large scale. Animal keeping of local breeds and dairy farming is also practised on small scale. The County had 292 public secondary schools by the time of the conceiving this study.

2.3 Study Population

The target population refers to an entire group of individuals, events or objects having common observable characteristics from which a sample that is a smaller group is obtained. It defines the universe of the study (Ghuri & Gronhaug, 2005). This study targeted 292 public secondary schools in the accessible population of Kakamega County. Therefore, the target population of the study consisted of 292 principals, 1,984 teachers and 18,741 Form 4 students drawn from 292 public secondary schools in Kakamega County of Kenya bringing the total to 21,017 individuals. The accessible population consisted of 30 schools selected by random sampling from among the 292 public secondary schools.

2.4 Sample Size and Sampling Procedure

2.4.1 Sampling Procedure

Sampling is a procedure of selecting a smaller and manageable proportion of the accessible population and that simple random sampling represents the most basic statistical sampling technique (Nassiuma, 2000). According to Kothari (2004) and Kerlinger (1993), 10% to 30% of a population is considered a good representative of the population. In the current study therefore, 10% of 292 schools is 30 while 10% of 1984 teachers is 199. Sampling of schools involved writing names of all schools on pieces of paper and putting them in three containers, the first one with a series of high performing schools, the second one with average performing schools and the third one with low performing schools. The pieces were rolled into balls and thoroughly mixed. Ten pieces were then randomly drawn from each of the containers. This procedure was used because it provided an efficient mechanism for capturing the heterogeneity that existed in the target population (Kothari, 2004; Mugenda & Mugenda, 2003; Blaxter, 1996). Therefore, 30 principals were sampled by purposive sampling because of the offices they held. Simple random sampling was used to give each of the teachers and students an equal chance to respond and involved the use of a table of random numbers to select 199 teachers and 393 Form 4 students to respond. The 393 Form 4 students were determined based on Israel (1992)'s formula of determining sample size as follows:

$$n = \frac{N}{1 + N(e)^2} \quad \text{Where, } n = \text{sample size, } N = \text{population size, } e = \text{the level of precision}$$

$$n = \frac{21741}{1 + (0.05)^2 21741} = \frac{21741}{55.35} = 393 \text{ Form 4 Students}$$

This formula was considered appropriate based on the view of Israel (1992), that the formula could be used to determine a sample size for a larger population of over 2000. Form 4 students were selected because they had more experience with the principals and teachers in their schools and

could give necessary information compared to the students in the lower classes who had less experience. This sample was considered appropriate based on the view of Dooley (2001), which indicates that a study, which probes deeply into the characteristics of a small sample, will often provide more knowledge than a study, which looks at the same problem by collecting shallow information from a large sample. Stratified sampling was used to place schools into three categories depending on their status as High Performing (HP), Average Performing (AP) or Low Performing (LP) Schools.

2.4.2 Sample Size

According to Mugenda and Mugenda (2003), sample size refers to the actual number of subjects chosen as a sample to represent the population characteristics. Sample size is affected by such factors as the number of variables in the study, the type of research design, the method of data analysis and the size of the accessible population and one has to balance between systematic bias and sampling error (Ghauri & Gronhaug, 2005; Kothari, 2004; Israel, 1992). A total sample of 622 respondents was used in the study. In constructing the sample, the researcher embraced the recommendation of Kathuri and Pals (1993) that the minimum thresholds of 100 cases in major subgroups and 20 – 50 cases in minor subgroups was appropriate for surveys. Students and teachers in the schools constituted major subgroups from which 393 and 199 students and teachers were picked respectively. On the other hand, principals constituted a minor subgroup from which 30 principals were picked to respond. A sample size of respondents used is as shown in Table 2.1.

Table 2.1: Sample Size

Category of Respondents	Population (N)	Sample (n)	Percentage (%)	Sampling Technique
Principals	292	30	10.27	Purposive
Teachers	1,984	199	10.03	Simple Random
Students	21,741	393	1.81	Simple Random
Total	24,017	622	2.59	

Source: Kakamega County Director of Education (2014)

2.5 Data Collection Instruments

This study used both questionnaires and interview schedules as instruments for collecting data from respondents. Questionnaires were used to collect information from students and teachers. Questionnaires have the advantage of having everyone in each sampled category answer exactly the same questions, thereby making it possible for a few people to administer the questionnaires without affecting the validity and reliability of the instruments (Ghauri & Gronhaug, 2005). It was therefore possible to reach out on a large number of respondents quickly, easily and efficiently using questionnaires. Interview schedules were used to collect data from principals who were helpful in clarifying issues that were not clearly articulated in questionnaires. As information collecting tools, interview schedules had inbuilt flexibility, since the interviewer had leeway to

adapt to situations in order to get more detailed information. According to Kathuri and Pals (1993), interview schedules also outline questions that form the basis for and a guide to the interviewing process, which helps in standardizing the interview situation.

2.5.1 Questionnaire

Hague (1998) points out that primarily the role of questionnaire is to draw accurate information from the respondent. Bell (1999) noted that questionnaires are a good way of collecting certain types of information quickly and relatively cheaply. The questionnaire is an ideal instrument to gather descriptive information from a large sample in a fairly short time (Kothari, 2004). It can also be answered at the convenience of the respondent and picked at a later time. The self-designed questionnaires had both open ended and closed questions. The questionnaire was administered to teachers and students. The respondents were assured that the information given was only for the purpose of research and thus treated with utmost confidentiality. It was expected that the questionnaire would gather information from teachers on the relationship between academic activities and students' academic performance.

2.5.2 Interview Schedule

According to Kerlinger (1993), an interview is a face-to-face interpersonal role situation in which one person, the interviewer, asks the person being interviewed the responded some questions. The interview schedule was used for the principals. Creswell (2012) observes that interviews allow an in-depth insight into how individuals comprehend and relate various aspects. The interview schedule was used to get clarification of issues, which needed probing as well as assess the accuracy and genuineness of responses given by teachers and students on the academic activities implemented and how they related to students' academic performance.

2.6 Pretesting of Instruments

Pretesting is the administration of data collection instruments with a small set of respondents from the population for full-scale survey. This is done to anticipate problems that may be encountered during data collection (Kothari, 2004). For instance, terminologies used in questionnaires and interview schedules may not be understood by respondents or information to be retrieved from documents may not be readily available. Reducing error to acceptable levels therefore requires pretesting of data collection instruments. According to Orodho (2009), piloting is carried out to ensure that there is clarity and efficiency of instruments before the real study is carried out. All instruments were pre-tested in three schools that were part of the target population for the study, but which had not been sampled for the actual study. By examining responses from subjects after piloting, shortcomings that may have posed threats to validity and reliability of the instruments were addressed. This improved the effectiveness of instruments in collecting relevant data.

2.6.1 Validity of Instruments

According to Zeller (1997), validity refers to the degree to which an instrument measures what it is supposed to measure for a particular purpose and a particular group. A measure is valid if it

measures what it is intended to measure (Keeves, 1997). According to Bell (1999), validity tells us whether an item measures or describes what it is supposed to measure or describe. Research experts validated the instruments of data collection for this study. The instruments were presented to the research experts. The experts provided suggestions that were used to revise the instruments. In addition, pre-testing was conducted and the responses from the respondents were used to improve the items.

2.6.2 Reliability of Instruments

Quality of research is dependent on the consistency with which observations are made. Consistency is in turn dependent on the precision with which an observation is specified (Keeves, 1997). Kosecoff (1998) explained that reliability is the degree of consistency between measures obtained from a subject under similar conditions at different times. A reliable survey will provide a consistent measure of important characteristics despite background fluctuations. Test-retest method of estimating reliability was used to determine the reliability. This method administers the same instrument twice to the same group of subjects at different times.

A pilot study was done in 3 schools that were not part of the actual study. The researcher administered the instruments to the students, teachers and the principals. After a period of two weeks the researcher administered the instruments again to the same respondents. Responses from the respondents were thus checked for consistency. From their responses, changes were made to the structure and some of the questions. In the analysis, the sum variables were compared to a single variable (Bryman & Cramer, 2001). Cronbach's Coefficient, alpha, was computed to determine how the items correlated among themselves. This technique was preferred because it is known to give more conservative estimates of reliability as its estimated coefficient is always lower (Mugenda & Mugenda, 2003). It was better to underestimate than to overestimate reliability to avoid making erroneous conclusions. The reliability index of 0.82 and 0.87 was obtained for students' questionnaire and teachers' questionnaire respectively. According to Koul (1992) and Sarantakos (1998), reliability index of 0.70 or higher is acceptable threshold for making inferences in a study. Therefore, the reliability indices obtained were deemed appropriate for use in this study.

2.7 Data Collection Procedure

Data is collected for the purpose of gathering information to serve or prove some fact. This requires one to follow approved procedures which guarantee adherence to ethics during research. Central to these ethics is the need to inform respondents about the nature of information sought and the use to which it will be put. This enables respondents to make informed decisions to participate in the research.

A research permit was sought to enable unhindered collection of data in Kakamega County, Kenya. The schools were categorized into high performing schools (HPS), average performing schools (APS) and low performing schools (LPS). Schools were sampled based on their strata. The research instruments were piloted in 3 schools that were not part of the actual study. Principals in the sampled

schools were approached where questionnaires were administered to the sampled teachers and students. Two research assistants were trained to be conversant with the study and involved in the collection of data. Interviews and document analysis were also used to collect data concurrently with the questionnaire administration. Confidentiality was upheld at all times. This was to address ethical issues during the research.

2.8 Data Analysis Procedures

The sources of analyzed data included questionnaires, interview schedules and school records. The quantitative data obtained from close-ended parts of the questionnaire were coded in readiness for standardized statistical analysis techniques using statistical package for social sciences (SPSS) version 20.0 for analysis. Qualitative data was transcribed, grouped into themes and sub-themes as they emerged. Quantitative data was analyzed by descriptive and inferential statistics and presented in form of frequency tables, means and percentages. For better interpretations and pictorial view, data was further presented as bar graphs and pie charts. Cross tabulations, Pearson's correlation coefficient and Multiple Linear Regressions were used to establish relationships between variables. All statistical inferences were done at $\alpha = 0.05$.

3.0 FINDINGS AND ANALYSIS

3.1 Academic Activities implemented in the Schools

This study established the time that internal exam was done in the school and the findings are shown in Figure 3.1.

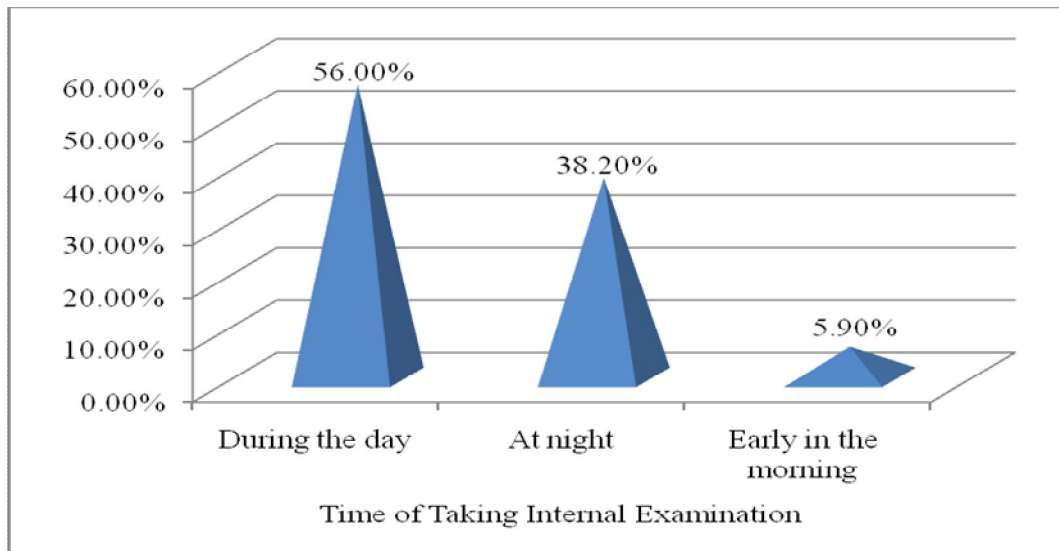


Figure 3.1: Time of Taking Internal Examination in the School (n = 393)

Findings in Figure 3.1 indicate that 220 (56.0%) of the students reported that they did their internal examination during the day while another 150 (38.20%) of them indicated that they took the examination at night. On the other hand, 23 (5.90%) of them said that they took their internal examination early in the morning. During interview a principal explained:

“We take our examinations during the day.....depending on the schedule of activities during the term, for instance, if we hosted sports or similar activities in our school, internal examinations are sometimes done in the evening (7.00 to 9.00) and early in the morning (6.00 to 7.00).”

From the findings, it is evident that most schools conducted their internal examinations during the day while others conducted their examinations early in the morning and in the evening. However, some schools had flexible schedules where they conducted examinations in different times depending on their term programmes that existed. At the same time, this study examined academic activities that were implemented in the school and the findings as reported by teachers and students are indicated in Table 3.1.

Table 3.1: Academic Activities implemented in the Schools

Academic activities	Teachers (n = 199)		Students (n = 393)	
	F	%	F	%
Principal procures revision materials externally	192	96.5	313	79.6
Students who do well in examinations are awarded	188	94.5	393	100.0
There is schedule for taking exam and release of results	176	88.4	386	98.2
There is a timetable for tuition (holiday/evening/morning)	164	82.4	332	84.5
Guest speakers are invited to talk to candidates on exam skills	157	78.9	393	100.0
There is a planned revision programme for Form 4	156	78.4	341	86.8
Teachers are taken for subject/exam skills workshops	151	75.9	254	64.6
The school does internal mock examinations	147	73.9	365	92.9
Students are placed in streams randomly as they enrolled	145	72.9	381	96.9
There is team teaching programme in the school	136	68.3	249	63.4
The school does joint exams with other schools	134	67.3	339	86.3
The school has remedial timetable	127	63.8	380	96.7
There are scheduled contests / symposia	107	53.8	335	85.2
Students who do not pass in Form 1-3 are asked to repeat	89	44.7	226	57.5
Specific teachers are assigned to teach Form 4	84	42.2	240	61.1
Teachers whose subjects perform well are awarded	75	37.7	290	73.8
Students are placed in streams as per their academic abilities	60	30.2	36	9.2
Students are placed in streams as per the subjects chosen	43	21.6	118	30.0

Source: Derived from Field data (2016)

Results in Table 3.1 indicate that 192 (96.5%) of the teachers and 313 (79.6%) of the students revealed that principals procured revision materials externally while 188 (94.5%) and 393 (100.0%) of the students indicated that students who did well in exam were awarded. A further 176 (88.4%) of the teachers and 386 (98.2%) of the students said that there existed schedules for taking exam and release of results. At the same time, 164 (82.4%) of the teachers and 332 (84.5%) of the

students indicated that a timetable for tuition (which was to be conducted either during holiday, evening or morning) was in place while 157 (78.9%) and 393 (100.0%) of them indicated that guest speakers were invited to talk to the candidates on exam skills. At the same time, 156 (78.4%) of the teachers and 341 (86.8%) of the students reported that there was a planned revision programme for Form 4 while 151 (75.9%) of the teachers and 254 (64.6%) of the students indicated that teachers were taken for subject/ exam skills workshops. In addition, 147 (73.9%) of the teachers and 365 (92.9%) of the students reported that their schools did internal mock examinations while 145 (72.9%) of the teachers and 381 (96.9%) of the students indicated that students were placed in streams randomly as they enrolled. At the same time, 136 (68.3%) of the teachers and 249 (63.4%) of the students indicated that there was team teaching programmes in the school while 134 (67.3%) of the teachers and 339 (86.3%) of the students reported that their schools did joint exams with other schools. In addition, 127 (63.8%) of the teachers and 380 (96.7%) of the students reported that their schools had remedial timetable while 107 (53.8%) of the teachers and 335 (85.2%) of the students indicated that there were scheduled contests/ symposia. On the other hand, 89 (44.7%) of the teachers and 226 (57.5%) of the students revealed that students who did not perform well in Form 1 to 3 were asked to repeat the class.

At the same time, 84 (42.2%) of the teachers and 240 (61.1%) of the students reported that specific teachers were assigned to teach Form 4. In addition, 75 (37.7%) of the teachers and 290 (73.8%) of the students indicated that teachers whose subjects performed well were awarded while 60 (30.2%) of the teachers and 36 (9.2%) of the students indicated that students were placed in streams according to their abilities. On the other hand, 43 (21.6%) of the teachers and 118 (30.0%) of the students indicated that students were placed in streams as per the subjects chosen. During interview, principals' sentiments corroborated findings from teachers and students. One of them said:

“We have several academic programs in this school to enhance academic performance, for instance, we reward teachers and students who perform well. We have a Form 4 revision programme in this school. The syllabus is completed in March of every year after which we start revision.”

Another principal said, “We have joint examinations with other schools and timetabled internal mocks.” However, another principal said, “I do not have many academic activities as such...you know programmes require funding and with our limited resources, we cannot afford.” The findings clearly show that there was a myriad of academic activities in the schools that were geared towards achieving academic targets that were set by the schools.

3.2 Relationship between Academic Activities and Academic Performance

Having explored the academic activities in the schools, the study sought to establish the relationship that the academic activities had on students' academic performance. This was done by use of cross tabulation, Pearson correlation and multi-linear regression analysis.

3.2.1 Cross tabulation of Academic Activities and Academic Performance

Cross tabulation of academic activities put in place and school performance strata was carried out. Table 3.2 has the findings for the same.

Table 3.2: Cross tabulation of Academic activities put in place and Students' Academic performance

Academic activities		School Performance			
		High	Average	Low	Total
Remedial teaching	Count	66	61	0	127
	Percentage	52.0	48.0	0.0	100.0
Holiday/evening/morning tuition	Count	66	54	44	164
	Percentage	40.2	32.9	26.8	100.0
Planned revision for Form 4	Count	54	35	67	156
	Percentage	34.6	22.4	42.9	100.0
Students placed in streams as per academic ability	Count	6	10	44	60
	Percentage	10.0	16.7	73.3	100.0
Students placed streams as per subjects chosen	Count	6	15	22	43
	Percentage	14.0	34.9	51.2	100.0
Students placed in streams randomly	Count	66	56	23	145
	Percentage	45.5	38.6	15.9	100.0
Revision materials procured externally	Count	66	59	67	192
	Percentage	34.4	34.4	30.7	100.0
Internal mock	Count	66	37	44	147
	Percentage	44.9	29.9	25.2	100.0
Joint examination with other schools	Count	60	51	23	134
	Percentage	44.8	38.1	17.2	100.0
Teachers taken for workshops	Count	48	59	44	151
	Percentage	31.8	39.1	29.1	100.0
Rewarding well performing students	Count	60	61	67	188
	Percentage	31.9	32.4	35.6	100.0
Invitation of guest speakers	Count	60	52	45	157
	Percentage	38.2	33.1	28.7	100.0
Prize giving for every examination	Count	42	32	0	74
	Percentage	56.8	43.2	0.0	100.0
Rewarding teachers whose subjects perform well	Count	48	27	0	75
	Percentage	64.0	36.0	0.0	100.0
Team teaching	Count	66	47	23	136
	Percentage	48.5	34.6	16.9	100.0
Schedule contests and symposia	Count	60	47	0	107
	Percentage	56.1	43.9	0.0	100.0

Source: Derived from Field data (2016)

Findings in Table 3.2 show that 66 (52.0%), 61 (48.0%) and 0 (0.0%) of the teachers from high performing schools (HPS), average performing schools (APS) and low performing schools (LPS) respectively reported that they had remedial teaching in their schools. This shows a positive relationship between remedial teaching and students' academic performance. At the same time, 66 (40.2%), 54 (32.9%) and 44 (26.8%) of the teachers from HPS, APS and LPS revealed that they had holiday/evening/morning tuition. This indicates a positive relationship between holiday, evening or morning tuition with students' academic performance. Furthermore, 54 (34.6%), 35 (22.4%) and 67 (42.9%) of the teachers from HPS, APS and LPS indicated that they had a planned revision for Form 4 students. This shows that there was no relationship between planned revision for Form 4 and students' academic performance. In addition, 6 (10.0%), 10 (16.7%) and 44 (73.3%) of the teachers from HPS, APS and LPS indicated that students were placed in streams as per their academic abilities. This shows a negative relationship between placing students in streams as per their academic ability and students' academic performance. At the same time, 6 (14.0%), 15 (34.9%) and 22 (51.2%) of the teachers from HPS, APS and LPS reported that they placed students in streams as per the subjects chosen. This indicates that there was a negative relationship between placing students in streams as per the subjects chosen and students' academic performance.

A further 66 (45.5%), 56 (38.6%) and 23 (15.9%) of the teachers from HPS, APS and LPS reported that their students were placed in streams randomly. This indicates a positive relationship between randomly placing students in streams and students' academic performance. At the same time, 66 (34.4%), 59 (34.4%) and 67 (30.7%) of the teachers from HPS, APS and LPS indicated that they procured revision materials externally, which does not show any relationship between the external procurement of revision materials and students' academic performance. Another 66 (44.9%), 37 (25.2%) and 44 (29.9%) of the teachers from HPS, APS and LPS respectively indicated that they had internal mock examinations. This shows no relationship between internal mock and students' academic performance. At the same time, 60 (44.8%), 51 (38.1%) and 23 (17.2%) of the teachers from HPS, APS and LPS respectively reported that they had joint examination with other schools. This shows a positive relationship between taking joint examination with other schools and students' academic performance. Furthermore, 48 (31.8%), 59 (39.1%) and 44 (29.1%) of the teachers from HPS, APS and LPS respectively indicated that they were taken for workshops, which shows no relationship with students' academic performance. At the same time, 60 (31.9%), 61 (32.4%) and 67 (35.6%) of the teachers from HPS, APS and LPS indicated that they rewarded well performing students. This indicates no relationship with students' academic performance.

Another 60 (38.2%), 52 (33.1%) and 45 (28.7%) of the teachers from HPS, APS and LPS respectively indicated that they invited guest speakers to talk to the students. This clearly shows a positive relationship between invitation of guest speakers and students' academic performance. At the same time, 42 (56.8%), 32 (43.2%) and 0 (0.0%) of the teachers from HPS, APS and LPS respectively reported that they had prize-giving programme for every examination. This shows a positive relationship between consistency of prize giving for every examination and students'

academic performance. A further 48 (64.0%), 27 (36.0%) and 0 (0.0%) of the teachers from HPS, APS and LPS respectively indicated that teachers whose subjects performed well were rewarded. This shows a positive relationship between rewarding teachers whose subjects perform well and students' academic performance. At the same time, 66 (48.5%), 47 (34.6%) and 23 (16.9%) of the teachers from HPS, APS and LPS respectively indicated that they had team teaching. This clearly shows a positive relationship between team teaching and students' academic performance. Another 60 (56.1%), 47 (43.9%) and 0 (0.0%) of the teachers from HPS, APS and LPS respectively reported that they had scheduled contests and symposia. These findings clearly indicate that there is a positive relationship between conducting planned contests and symposia and students' academic performance.

3.2.2 Correlation between Academic Activities and Academic Performance

Correlation between academic activities and students' academic performance were carried out. The findings are shown in Table 3.3.

Table 3.3: Correlation Coefficients of Students' Academic Performance across Academic activities

School Academic activities	N	Correlation Co-efficient (<i>r</i>)	Sig.
Planned revision programme for Form 4	199	0.374	0.000*
Holiday/evening/morning tuition	199	- 0.313	0.000*
Students placed in streams as per academic ability	199	- 0.551	0.000*
Students placed in streams as per subject chosen	199	0.194	0.006*
Students placed in streams randomly as enrolled	199	0.617	0.000*
Procurement of revision materials externally	199	0.136	0.055
Internal mock examination	199	- 0.133	0.061
Joint examination with other schools	199	0.501	0.000*
Subject/ exam skills workshops for teachers	199	0.170	0.016*
Guest speakers talking to candidates on exam skills	199	0.064	0.371
Prize giving programme in the school	199	0.548	0.000*
Team teaching programme in the school	199	0.521	0.000*
Specific teachers are assigned to teach Form 4 class	199	0.338	0.000*
Engaging in contests/ symposia	199	0.768	0.000*

* Significant at $p < 0.05$

Source: Derived from Field data (2016)

Findings in the above Table 3.3 indicate that there were significant correlations at $p < 0.05$ between the students' academic performance and school academic activities: Planned revision programme for Form 4, holiday/evening/morning tuition, students placed in streams as per academic ability, students placed in streams as per subject chosen, students placed in streams randomly as enrolled, joint examination with other schools, subject/exam skills workshops for teachers, prize giving programme, team teaching programme, engaging in contests/ symposia, specific teachers assigned to teach Form 4 class. However, procurement of revision materials externally, internal mock examinations and guest speakers talking to candidates on exam skills had no significant relationship with students' academic performance.

At the same time, it is important to note that: planned revision programme for Form 4, students being placed in streams as per subject chosen, students being placed in streams randomly as enrolled, taking joint examination with other schools, teachers attending subject/ exam skills workshops, having prize giving programme, having team teaching programme, having specific teachers assigned to teach Form 4 class and engaging in contests/ symposia had positive relationships with students' academic performance. This implies that principals who emphasized these programmes in their schools were likely to record higher students' academic performance compared to their counterparts who did not emphasize them. At the same time, extra tuition, students being placed in streams as per their academic ability and internal mock examinations had negative relationship with students' academic performance which means that principals who emphasized these programmes were likely to record lower students' academic achievement compared to those that did not emphasize them. It is worth noting that the correlation coefficients (r) were generally weak ($r < 0.5$) except placement of students in streams as per academic ability, placement of students in streams randomly as enrolled, joint examination with other schools, prize giving programme, team teaching programme and contests/ symposia that were strong.

3.2.3 Regression Analysis

In order to establish the relative contribution of each of the academic activities on academic performance, a multi-linear regression analysis model was specified. According to Kerlinger (1993), multiple regression attempts to determine whether a group of independent variables together predict a given dependent variables. This study adopted the backward elimination method, which allows for the selection of variables for inclusion in the regression model that considered all independent variables and then eliminated those variables that did not make any significant contribution to prediction of the dependent variable (Gall, Gall & Borg, 2007; Hair et al. 2009).

Under this objective, this study sought to establish the relationship between academic activities put in place and students' academic performance. The relative effects of ten regressor [independent] variables: school has remedial/tuition lessons, students who perform dismally in Form 1-3 repeat the class, students are placed in streams as per their ability, students are placed in streams as per subjects chosen, students are placed in streams randomly as they are admitted, internal mock

examinations, joint exam with other schools, prize giving programmes, team teaching programme and scheduled contests/symposia were considered together in one equation as predictors of [Y] students' academic performance (dependent variable). The main objective of using multiple regression analysis for estimation was to explain the factors that had a significant effect on students' academic performance (Kerlinger, 1993; Gall, Gall & Borg, 2009).

The general statement of relationship was of the form:

$$Y = f(X_1, X_2, \dots, X_n).$$

Where Y was the criterion variable while X_1, X_2, \dots, X_n represented the explanatory variables.

Results discussed below were the output of a simultaneous regression method, which required a researcher to specify the set of predictor variables that made up the model. The success of the model in predicting the criterion variable was then assessed. The following linear regression model was specified with KCSE mean scores as the dependent variable.

$$Y = a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4 + a_5X_5 + a_6X_6 + a_7X_7 + a_8X_8 + a_9X_9 + a_{10}X_{10} + c$$

Where:

Y = Academic performance (KCSE mean scores)

X_1 = School has Remedial/Tuition Lessons

X_2 = Students who perform dismally in Form 1-3 repeat the class

X_3 = Students are placed in Streams as per their Ability

X_4 = Students are placed in Streams as per Subjects chosen

X_5 = Students are placed in Streams Randomly as they are admitted

X_6 = Internal Mock Examinations

X_7 = Joint Exam with other Schools

X_8 = Prize giving programmes

X_9 = Team Teaching Programme

X_{10} = Scheduled contests/ symposia

c = Constant; and $a_1 \dots a_{10}$ are regression coefficients

Results

The model entered eight explanatory variables for a linear relationship with students' academic performance. These were school has remedial/tuition lessons, students who perform dismally in Form 1-3 repeat the class, students are placed in streams as per their ability, students are placed in streams as per subjects chosen, students are placed in streams randomly as they are admitted, internal mock examinations, joint exam with other schools, prize giving programmes, team teaching programme and scheduled contests/symposia.

Model		Sum of Square	Df	Mean Square	F	Sig
1	Regression	94.878	3	31.626	4.132	0.041
	Residual	1500.184	196	7.654		
	Total	1595.062	199			

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.492	.396	.385	1.09197

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	20.086	1.067		18.830	.000
School has remedial/tuition lessons	-2.856	.403	-.217	-7.086	.000
Students who perform dismally in Form 1-3 are asked to repeat a class	-1.664	.156	-.350	-10.664	.000
Students are placed in streams as per their ability	-1.563	.301	-.192	-5.187	.000
Students are placed in streams as per subjects chosen	.072	.152	.014	.470	.638
Students are placed in streams Randomly as they are admitted	3.050	.406	.223	7.509	.000
Internal mock examinations	-.673	.345	-.074	-1.947	.052
Joint exam with peer schools	1.916	.211	.280	9.079	.000
Prize giving programmes	.117	.249	.022	.469	.640
Team teaching programme	.134	.243	.027	.550	.002
Scheduled contests/symposia	.748	.251	.113	2.983	.003

Dependent Variable: KCSE Mean Scores (2011–2015)

Source: Field data (2016)

The F-ratio (between groups mean square) was 4.132 while the p-value was 0.041. The probability of F-ratio (p-value) of 0.041 was less than the significance level (critical value) of 0.05. An examination of the ANOVA table, in this model revealed that the explanatory power of the model was high ($F = 4.132$, $p < 0.05$); thus, the model could not be rejected.

Results show an R-Square value of 0.396, meaning that the dependent variables (remedial/tuition lessons, students class repetition, students being placed in streams as per their ability, students being placed in streams as per subjects chosen, students being placed in streams randomly as they are admitted, internal mock examinations, joint exam with other schools, prize giving, team teaching,

scheduled contests/symposia) explained 39.6% of the variation in examination performance. Regression coefficients for the model can be seen below.

Data indicates that the prediction equation for the academic performance (Y) becomes:

$$Y = 20.086 - 0.217 [\text{remedial/tuition lessons}] - 0.350 [\text{students class repetition}] - 0.192 [\text{students are placed in streams as per their ability}] + 0.223 [\text{students are placed in streams randomly as they are admitted}] + 0.280 [\text{joint exam with other schools}] + 0.027 [\text{team teaching}] + 0.113 [\text{scheduled contests/ symposia}].$$

This means that examination mean score is predicted to reduce by 0.217 when remedial/tuition lessons goes up by one, decrease by 0.350 when repetition of class by students increases by one, decrease by 0.192 when placement of students in stream as per their abilities goes up by one, increase by 0.223 when placement of students in streams randomly on admission goes up by one, increase by 0.280 when joint examinations with other schools goes up by one, increase by 0.117 when prize giving goes up by one, increase by 0.27 when team teaching goes up by one and increase by 0.113 when contests/symposia are increased by one.

The standardized beta (β) coefficients took on both negative and positive values. However, only four variables namely: placement of students in streams randomly, joint examinations with other schools, team teaching, and scheduled contests/symposia significantly enhanced students' academic performance ($p < 0.05$). These findings are in agreement with Hoy and Miskel (2001) who indicated that designing of academic activities is the most important factor that in the success or failure of schools. At the same time, the findings concur with Jacobson (2011) who found that designing programmes was common to successful principals and Jibril (2008) who suggested that planning is an important administrative activity by the principal that determines academic performance. The findings are also in line with Okwori and Ede (2012) who indicated that the principal manages the school by making things happen by organizing human, financial and material resources to achieve objectives set.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

Based on the findings, this study concluded that there was a significant relationship between academic activities put in place and students' academic performance. Students being placed in streams as per subjects chosen and randomly as enrolled, taking joint examination with other schools, prize giving programme, team teaching programme and engaging in contests/symposia had significant relationship with academic performance. The academic activities put in place explained 39.6% of the variation in academic performance among HPS, APS and LPS. Students being placed in streams randomly as they enrolled, joint examinations, team teaching and schedules contests/symposia were good predictors of academic performance.

4.2 Recommendations

Based on the findings and conclusions, this study recommends that:

Secondary school principals should put more emphasis on putting in place academic activities that enhance students' academic performance. These include: placing students in classes randomly as they enroll, taking joint examination with other schools, team teaching and engaging in scheduled contests/symposia.

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