

# Determinants of Academic Performance in Kenya Certificate of Secondary Education in Public Secondary Schools in Kiambu County, Kenya

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## Abstract

this article sought to investigate the determinants of academic performance in Kenya Certificate of Secondary Education Examination (KCSE) in public secondary schools in Kiambu County, Kenya. Four research questions were formulated to guide the study. The study adopted the ex-post-facto research design. Simple stratified random sampling techniques were used to select the sample; 260 teachers, 246 students, 36 principals and the County Director of Education (CDEO) Kiambu County. Data was collected through the use of questionnaires for students and teachers, while interview schedule was used to collect data from the principals and the County Director of Education.

The findings revealed that, majority of the teachers (72.8%) did not use apparatus in the teaching of science subjects while 55.6% of the students felt that their science laboratories were not well equipped. From the study, 55.7% of the schools had no libraries and where they existed, they were poorly equipped. Lecture method was more widely used than any other method of teaching. Again further 63.8% of the sampled students had scored 201-300 marks out of 500 marks at primary school level hence poor academic background. Most teachers lived outside the schools as indicated by 57.3% of the students' respondents, hence remedial teaching during morning and evening was not possible. From the study majority of the students (56.9%) revealed that, the syllabus was never covered before the end of every year.

Among the recommendations of the study were; the Board of Governors should equip the science laboratories and libraries and put up teachers houses. A variety of teaching methods should be used to create interest in learning and teachers should focus on value addition of the learners' due to their low Kenya Certificate of Primary Education (KCPE) entry marks to secondary school. Internal supervision of the implementation of the curriculum by the principals needs to be intensified.

**Keywords:** Academic performance, Curriculum, Entry marks, Implementation of curriculum, teaching methods, teaching and learning resources, school education day, school academic day

## INTRODUCTION

Performance of national examinations globally is a sensitive issue because it determines the direction and future of an individual. Each country's national examinations are based on national curricula and content standards. The Ministry of Education Science and Technology (2000) in the Republic of Kenya observes that performance in examinations is one indicator of educational effectiveness. It allows educational stakeholders to assess whether a school is declining or improving in the performance of national examinations. According to Kenya National Examinations Council (KNEC) annual report (2010), titled *Education: The Kenya Certificate of Secondary Education (KCSE) 2010* had 213,438 out of 357,488 candidates scoring C- and below. The large number accounted for an astonishing 60% of those who sat for the examinations. Whereas the examination was sat by 357,488 candidates, only 27% obtained mean grade of C+ and above, which was considered the minimum university entry benchmark. A notable 154,830 students representing 43 per cent of the total candidature obtained D+, D, D- and E, the lowest grades in the KCSE ranking. Further the number of candidates who obtained grades of D- and E in year 2010 stood at 47,405, compared to only 8,131 students who obtained the first two top grades of A and A- nationally. The purpose of the study was to investigate the determinants of academic performance in Kenya Certificate of Secondary Education in public secondary schools in Kiambu County, Kenya in year 2007, 2008, 2009 and 2010.

Kiambu County was not performing well in the four years under study in the Kenya Certificate of Secondary Education compared to other counties in the province. It was a concern to the researcher especially noting that the county is a high potential area in terms of resources with a high socio-economic status compared to other counties in the region and the rest of the country. Table 1.1 shows the ranking in terms of poverty index: Percentage of individuals below poverty line 2005/2006 and the County poverty ranking (1=richest and 5-poorest).

**Table 1.1 County Economic Status ranking in Central Province-2005/2006.**

County	Percentage of Individuals Below Poverty Line.	County Ranking
<b>Kiambu</b>	<b>24.84</b>	<b>1</b>
Kirinyaga	25.25	2
Nyeri	33.08	3
Murang'a	30.39	4
Nyandarua	49.78	5

Source: Kenya National Bureau of Statistics; Constituency Report on Well-Being in Kenya Survey-2005/2006. According to the Economic Status ranking in Central Province-2005/2006, Kiambu County provides the learners with an advantage of being the best in economic status of the parents over the other Counties. Therefore, there must be other factors that affected the academic performance in the county in the four years under study. Table 1.2 shows the consistent performance of Kiambu County in the four years under study compared to the other Counties in Central Province, Kenya.

**Table 1:2 Academic Performances in Kenya Certificate of Secondary Examination in Central Province between 2007-2010, in terms of mean score.**

County	2007	2008	2009	2010
Nyeri	4.480	4.883	4.976	5.127
Nyandarua	4.395	4.862	4.879	4.985
Murang'a	4.523	4.717	4.754	4.919
Kirinyaga	4.104	4.792	4.834	5.119
<b>Kiambu</b>	<b>4.197</b>	<b>4.377</b>	<b>4.458</b>	<b>4.574</b>
Provincial mean	4.285	4.784	5.165	4.945

Source: Provincial Director of Education (PDE)-Central: KCSE 2007-2010, result analysis. (May 2011)

Table 1.2 shows the trend in performance for the various counties in Central Province. Kiambu County consistently attained the lowest performance in Kenya Certificate of Secondary Education Examination over the four years under study. The study focused on the impact of the following issues: teaching/ learning resources, teaching methods, learners' KCPE entry marks and the supervision of implementation of curriculum.

#### **Statement of the problem**

Kiambu County maintained the last position in the province in academic performance of Kenya Certificate of Secondary Examination in the four consecutive years under study (PDE-central, 2007-2010 KCSE result analysis). The academic performance includes the mean score and the quality grades that lead to admission to universities for degree courses. Most candidates scored low grades, hence raising the concern. Taking the importance of good academic performance of national examinations globally, this study sought to investigate the determinants of academic performance of KCSE in Kiambu County.

#### **Research Methodology**

##### **Research design**

The study used ex-post-facto design. According to Best and Kahn (1998) such independent variables such as, teaching and learning resources, supervision of implementation of curriculum, learners entry behaviour and teaching methodologies cannot be manipulated. The study sought to establish to what extent the performance (dependent variable) is affected by school environmental factors (independent variables). The study was mainly qualitative and quantitative in nature.

##### **Target population**

The population involved in this study comprised of 40 public secondary schools, 3,500 form four students, 800 teachers, 40 principals and the County Director of Education in Kiambu County.

##### **Sample size and sampling procedures**

To determine the sample size from the 40 public schools, 800 teachers and 3,500 form 4 students, the researcher used the table for determining sample size for research activities from Krejcie, R. V., & Morgan, D. W. (1970). This table helped the researcher to determine (with 95 percent certainty) what the results would have been if the entire population had been surveyed. Therefore, a sample size of 36 schools was used where 9 day schools, 9 boys boarding, 9 girls boarding and 9 mixed boarding schools were used giving a total of 36 schools. Simple and stratified random sampling procedures were used to determine the schools, students and teachers to be involved in the study.

##### **Research instruments**

Data was collected through questionnaires, which were administered to the teacher and students. Interview guides were used to collect more information from the principals and County Director of Education.

## RESEARCH OBJECTIVES AND QUESTIONS

### The objectives of the study were:

- a) To identify the methodologies used in the teaching process that affected academic performance of students in Kenya Certificate of Secondary Examination.
- b) To establish the effect of Kenya Certificate of Primary Education entry marks on students' in Kenya Certificate of Secondary Examination performance.
- c) To determine how the supervision of implementation of curriculum affect students' academic performance in Kenya Certificate of Secondary Examination.

## RESEARCH FINDINGS AND DISCUSSION

Data was analyzed using quantitative statistics such as frequency distributions and percentages. Qualitative descriptions (discussions) were also used in the presentation of data. The data collected through the use of questionnaires was coded to make it easier to analyze using the SPSS computer program. The data was further analyzed and interpreted to provide meaningful and final results. Hence, in view of the above, the researcher analyzed the data and presented the findings of the research in percentages and frequency tables. Open-ended questions were analyzed using qualitative analysis and excerpts of the respondents. The sample for the study consisted of 260 teachers, 246 students, 36 principals and the County Director of Education. The questionnaires were administered to 260 teacher respondents, out of which 246 (94.6%) returned the questionnaires. All the 246 (100%) students' respondents returned the questionnaires. The researcher targeted 36 principals, but was able to interview 34 principals representing 94.4% of the sample size.

**Objective 1:** To identify the methodologies used in the teaching process that affected academic performance of students in Kenya Certificate of Secondary Examination.

Most science teachers used demonstration methods even where class experiments are possible. About 55.6% of the teachers and 55.7% of the students further indicated that, their laboratories and libraries respectively were not well equipped. From the study, lecture method was widely used as a method of teaching, than any other method of teaching as agreed by majority of teachers (59.05%) and students (55.8%) respectively.

**Objective 2:** To establish the effect of Kenya Certificate of Primary Education (KCPE) entry marks on students' in Kenya Certificate of Secondary Examination performance.

Out of the 234 students who responded, 68.4% had scored 201-300 marks out of 500 marks in Kenya Certificate of Primary Education (KCPE). The Provincial Director of Education gave the provincial KCPE mean score in 2007, 2008, 2009 and 2010 as 249.52, 242.76, 244.56 and 245.67 respectively. Hence, the county KCPE mean score was far below the provincial KCPE mean in the four years under study. Majority of the teachers (52.4%), said that the students were academically weak.

**Objective 3:** To determine how the supervision of implementation of curriculum affect students' academic performance in Kenya Certificate of Secondary Examination.

According to the principals, visits by Quality Assurance and Standard Officers to schools for assessments were rare. This was supported by 50% of the students' responses. The County Director of Education also concurred that assessment exercises were not carried out adequately due to lack of adequate personnel at the County Education Office. The syllabus was not covered by the end of each year as reported by 56.9% of the students and the County Director of Education.

During the assessment exercises by the ministry's officials, the following were identified as the major weak areas that need redress;- poor syllabus coverage, schemes of work and lesson notes were in most cases not up to date, importance of adding value to learners entry behaviour, poor record keeping, teacher friendly time tables, a variety of teaching methods to be used, implementation and supervision of curriculum by the administration to be intensified and provision of more internal examinations. This study found that where assessment was done due to a crisis, it was after students' unrest or poor performance. Effective internal quality assurance mechanisms were also lacking. Further information revealed that, there was lack of internal supervision by head teachers and textbook teaching by the teachers.

Further, to that, the principals raised the following issues which adversely impact on performance: Due to proximity to Nairobi city, teachers are not committed to their professional work, since many of them own small businesses resulting to conflict of interest. The teachers also lack parents' support especially on matters related to discipline and academics. For example teachers cited incidences where parents threaten teachers with either going to court or reporting to the local education office when corporal punishment is used while parents are also reluctant to give incentives to teachers and learners.

A lot of emphasis has been put on girl child, threatening the welfare of boy child. As a result the boy child engage himself with undesirable behaviours like drug and substance abuse, whose market is readily available, joining of outlawed groups like Mung'iki sect and illegal methods of making quick money like robberies. The boys are influenced by their peers who impress them through the money made through undesirable methods.

Child labour was also found to be an issue especially to areas with coffee and tea plantations. Learners lack role models because the educated group migrates to urban areas where they feel they are secure. Most people do not take courses whose market are in the rural areas e.g. teaching, nursing etc, rather they prefer courses whose employment are found within the urban areas. The researcher found out, that over 75% of the schools in the county are headed by principals from outside Kiambu County. It is important to note that, teachers are a source of wisdom in the rural areas because they are opinion leaders and can have a lot of influence to the learners in terms of role model. The rural area is left to the uneducated rich people who are not many. As such the learners wonder whether they indeed require education to become successful.

Due to proximity to Nairobi city many parents are able to do small scale farming like horticulture because market is readily available. As a result of competition the parents don't give learning priority such that a parent will be having revolving money until the learner is sent home to collect the school fees. The learner's are also attracted to same kind of business which appears easy to start and make quick money. Therefore the learner will either drop or not take his studies seriously.

## Conclusions and recommendations

### Conclusions

Based on the findings, the study concluded that: Majority of the schools (55.6%) did not have equipped laboratories and where such facilities were found they were not adequately used. About fifty five percentage (55.7%) of the schools had no libraries and where one existed, it had inadequate books. Lecture method was dominantly used as a method of teaching.

Majority of the students (63.8%) had an average of 200-300 marks when they joined form one resulting to poor academic background. Majority (57.3%) of teachers lived outside the school as reported by the student respondents hence denying the students opportunity to interact with teachers in the evening, before lessons in the morning and during weekends. Assessments by the Quality Assurance and Standards Officers were rare, while there was a general lack of internal supervision of implementation of the curriculum.

About ninety three percent (92.7%) and 78.5% of students and teachers responses respectively showed that schools never took seriously the concept of entry behaviour value addition hence targets are not set. Majority of the schools never completed the syllabus as indicated by 56.9% of the students' responses, hence denying the candidates the opportunity to answer a variety of questions and therefore reducing their chances to perform well. Teachers had a negative attitude towards the students' academic ability. Parents support towards learning was found to be lacking as majority engage in small scale businesses either within or at Nairobi city which is within the proximity of Kiambu County while teachers were found to be afraid of administering corporal punishment which resulted to conflict between them and the parents. Parents were found to be reluctant at providing incentives to both teachers and learners. Lack of local role models was found to be lacking.

### Recommendations

The findings of this study have revealed several implications. Therefore, the following recommendations may help to improve the academic performance of Kenya Certificate of Secondary Examination.

- i. The School managements need to urgently equip the Science laboratories to enhance teaching of science subjects and establish libraries where students can supplement what they learn with teachers.
- ii. Teachers should use a variety of teaching methods like lecture, demonstration, class experiment, group discussion and excursions. This is necessary to make the learning interesting.
- iii. Teachers should focus their attention on value addition of learners rather than having the attitude that the learners are weak academically. This will motivate the learners.
- iv. School managements should consider putting up teacher's houses to create more contact hours between learners and teachers during the evenings and mornings.
- v. There is need to increase the frequency of assessments by the county quality assurance and standards officers to update the teachers on issue of curriculum implementation.
- vi. There is need for Principals to intensify thorough and quality internal assessment as a measure of curriculum implementation.
- vii. Despite the low entry marks in Form One, learners and teachers should set high targets, and embrace the value addition concept with a view of improving the performance.
- viii. Teachers should avoid using corporal punishment to avoid legal consequences since learners are protected by the children's act.
- ix. Parents should be involved in academic matters like giving incentives to both teachers and learners. For example school academic days where parents, teachers and learners discuss academic progress while school education days should be held at least once a year to reward learners and teachers who excel in academic performance.

- x. Local residents who have excelled in different fields should be invited during parents, education day and during Guidance and Counseling sessions and be given an opportunity to talk to such gatherings as a way of motivation.

### Recommendations for further research

From the findings of this study the researcher made the following recommendations;

- i. A similar study in other parts of the country would be useful for comparative purposes. Indeed, a nationwide study would be useful, comparing the results in the various regions in the country.
- ii. This study investigated a limited number of factors that impacts on performance in KCSE namely, teaching methodologies, students' KCPE entry marks and the supervision of implementation of curriculum. There are however other factors that may influence academic performance in KCSE examination like the quality of teachers, administrative set-up, parental occupations, quality of internal supervision and lack of commitment by the teachers. It would therefore, be useful to explore the extent to which these other factors impact on academic performance in KCSE examination.

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