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James Gathungu
Maasai Mara University,
Narok, Curriculum
Instructional and
Management, Narok, +254
Kenya.

Alexander Ronoh
Maasai Mara University,
Narok, Curriculum
Instructional and
Management, Narok, +254
Kenya.

Edward Tanui
Maasai Mara University,
Narok, Curriculum
Instructional and
Management, Narok, +254
Kenya.

Correspondence
James Gathungu
Maasai Mara University,
Narok, Curriculum
Instructional and
Management, Narok, +254
Kenya.

Understanding Transition through Secondary Schools; A Review of Trend in Academic Performance among Students in Kenya

James Gathungu, Alexander Ronoh, Edward Tanui

Abstract

Academic performance has been widely studied with students' performance in summative examinations being a key variable. This paper investigates students' trend in academic performance by identifying the relationship between the marks students scored in examinations taken progressively through secondary school course. The study was carried out in Kiambu County in Kenya using the Correlation research design. Data was collected from teachers, students and Deans of Studies using questionnaire and a researcher's designed Learners' Examinations Marks Schedule. Respondents were selected using stratified random sampling technique. The study informs curriculum developers and implementers on the trend in academic performance to expect of students going through the secondary school course. Data collected was summarized in descriptive statistics of mode and percentages. Using a Chi-Square test, the study identified significant decline in students' examinations marks thereby generalizing that as students progressed through secondary school, their academic performance tend to declining and therefore recommends for attempts to turn around this trend.

Keywords: Trend; Academic Performance; Progress; Examination Marks.

1. Introduction

1.1. Background of the Study

Students' academic performance has become one of the key indicators of the efficient management of schools, a value judgment on a student's mastery of subject content at school and a yardstick of probable success in life after school. This performance is measured in terms of the marks a student scored in examinations^[21]. Examinations taken as the student progress through a level of schooling are intended to find out the extent to which the student is progressively achieving the desired instructional outcomes, as well as predicting future performance^[11].

The marks scored in a series of examinations show ones trend in academic performance^[10]. Where a student's scores in a subsequent examination are lower than the previous, the trend can be said to be "downward" and if higher, then the trend can be said to be "upward". Being able to predict the student's academic performance in subsequent examinations is an important starting point in identifying those at risk of poor performance; and sensitizing teachers and school administration into crafting ways and means of addressing the factors of the decline and supporting the students^[6].

The level of schooling at which the variation in students' academic performance is significantly visible is at post primary level of schooling^[19]. While reviewing records on students' academic performance some studies have identified decline in individual student's marks in examinations taken subsequent to the first test at secondary school^[5, 10, 11]. In Nigeria, students were found to score an average of 70% mark in their first test at secondary school, but up to 63% of the same students performed below par in subsequent examinations^[1].

In a study carried out in England, 17% of students in a cohort of 1000 had their academic performance dropping by up to a third of the marks scored in the first examinations at secondary school^[4]. A similar study in Wales notes that, 40% of students reported a decline in their academic performance as they progressed through secondary school^[5, 13]. Among some of the students studied, the decline in percentage marks was found to build up to poor performance in the end of the course summative examinations^[9, 17].

Pupils who top in the Kenya Certificate of Primary Education (KCPE) tend to find it hard to replicate their KCPE performance right from the first examinations upon transiting to secondary school^[16]. Among these students, there are those whose academic performance may decline as they progressed through secondary school. According to Elimu Yetu Coalition^[7], some of the

students never recover from the decline, a phenomenon that eventually translates into the students' poor performance in the Kenya Certificate of Secondary Education (KCSE).

An analysis of KCSE results among secondary school students at KCSE in Kiambu County shows that academic performance have remained below the mean grade C+ of 6.5 points which is the overall minimum required for a student to join a public university, and has declined from a mean grade C- of 4.68 points in 2007 to a D+ of 4.32 points in 2011. The report further explains that some of the top pupils find it hard to replicate their KCPE performance right from the first examinations upon transiting to secondary school.

While analyzing academic performance among students in one of the national secondary schools in the County, the researcher observed a trend where cohorts of students scored high marks in their first examinations taken upon joining the school. The same students tended to score progressively lowers marks in subsequent examinations taken as they progressed through the secondary school level. This observation is similar to what Adeyemo^[1], Cox & Shelley^[4], Dockett & Perry^[5] and Wylie & Hodgen^[25] had identified in their studies on academic performance among secondary school students in Nigeria, England, Wales and USA respectively.

A report on academic performance in Kenya by Asikhia and Otedola^[2] shows that students who scored low marks in examinations as they progressed through junior secondary classes are at higher risk of scoring poorly in their End-of-Course examinations such as KCSE. The low academic performance in KCSE among secondary school students in Kiambu County provide a potential research area on the trend in students academic performance as they progressed through secondary school.

1.2 Purpose and Objective of the Study

The purpose of this study was to determine the trend in students' academic performance as they progress through secondary school in Kiambu County of Kenya. The study used the data collected to test the null hypothesis (Ho) that "There is no significant change in students' examinations marks subsequent to what they score in their first examinations upon transiting from primary to secondary schools in Kiambu County." The assumption was that students have the capability to improve in academic performance as they progressed in learning the secondary school course content.

The study was carried out cognizant of respondents' tendencies to exaggerate events and outcomes when reporting, attribution of positive events and outcomes to self while attributing negative events and outcomes to other as well as people's reluctance in providing information. To minimize the effect of the limitations, the researcher used questionnaire items that were easy and friendly to complete since they contained close ended items.

2.1 Theoretical framework

This study was guided by Vincent Tinto's^[21] model of students' retention. The model claims that whether a student persists or drop out of school is quite strongly predicted by among others their degree of academic integration. The academic integration is manifested by the grades or marks a student scores in a set of examinations taken over a period of time. Understanding a student's trend in academic performance would sensitize schools, teachers and students into addressing the possible causes and thereby prevent

undesired results such as school dropout and poor performance in summative examinations^[6].

2.2 Conceptual Framework

The study was conceptualized in the presumption that there exists a relationship between the percentage marks a student score in the first examinations at secondary school and those scored in subsequent examinations as the student progress through secondary school. The marks scored in the first exams upon transition to secondary school was used as the baseline and then compared with marks scored in subsequent exams to identify the goodness-of-fit. The study is a univariate analysis since we are comparing change in the same variable.

3. Methodology

The variables studied had already occurred and therefore Correlation research design was used in identifying the relationship without necessarily controlling either the variables or their relationships^[15]. The population of the study included the 80047 students in the 243 public county secondary schools in Kiambu, with proportional representation for each of the four districts in the county.

The sample was made up of three strata namely schools, teachers and students. The sample size for school was determined using the 10 percent as recommended by^[11] who states that for a correlation study in social science where there are less than 300 cases, 10 percent of the cases suffice as a sample. The sample size for teachers and learners for the target population were separately determined using Cochran's sample size formula^[11].

4. Results and Discussion

A student's achievement in academic performance is measured in terms of marks scored in examinations. The student's progression in academic performance in a level of schooling can therefore be measured by comparing the examinations marks in each of the school term, with the marks in one of the terms acting as the baseline performance. For this study, a student's End-of-Term exams marks were used in computing the trend in students' academic performance.

The Form One End-of-Term examinations marks were used as the baseline performance, since it was the first assessment a student sit for upon transition to secondary school. This examination is sat at a time when the student's experiences at primary school are still fresh in their mind and therefore likely to influence the learning styles and the students' academic performance at the time of joining secondary school.

The End-of-Term One Form One examination marks collected from the Deans of studies using the LEMS were standardized into a performance index of 100. The performance index for the subsequent End-of-Term exams were then computed by dividing each End-of-Term exams marks by the End-of-Term One Form One marks and then multiplying by 100. The mathematical differences between each two subsequent terms were then summed up to get the total change in performance index. This was done for each of the 382 students participating in the research study and the performance indexes grouped and tallied into frequency distributions whose class size was 10. Table 1 shows the frequency distributions of the resulting changes in performance indexes for the 382 students.

Among the 382 students participating this research study, 147 (38.5 percent) had their End-of-Term exams marks decline by a performance index of 10 to 19. This was the range of change in performance index with the highest number of students.

The number of students whose academic performance index with had changed with a value of 30 to 39 were three (0.8 percent).

For the purpose of this study, a performance index within positive and negative nine was classified as “unchanged” performance, below negative nine was classified as a “downward” trend and above nine taken as an “improved” trend. Therefore, 226 (59.2 percent) of the 382 students had a downward trend in their academic performance. This is the trend that was most common among the secondary school students compared to the 103 (27 percent) whose academic performance had remained unchanging and the 53 (13.9 percent) whose trend had improved. It is the observation of this research study that a high number of students reported their academic performance to have declined than those who reported the as to have improved or remained constant.

To identify the trend in students academic performance among the secondary schools students in Kiambu County, the data collected that was used to test the null hypothesis (H₀) that;

There is no significant difference in students’ academic performance between the End-of-Term One in Form One and subsequent exams among the secondary school students in Kiambu County

The researcher carried out a Chi-Square (χ^2) test of independence using the End-of-Term examinations marks collected from the Deans of Studies. The change in students’ performance index has an observed $\chi^2 = 300.932$, $df = 7$, $n = 382$ and $p = 0.000$. Table 2 shows the output of the Pearson Chi-square test of independence for the univariate variable academic performance

The critical value of $\chi^2 = 14.067$, where $df = 7$ and $p = 0.05$. The observed value of χ^2 (300.932) is greater than the critical value of χ^2 (14.067) and the p value (0.000) is less than the accepted rejection threshold of 0.05 in social science research [19]. This observation implies that there is a difference between the marks a student scores in the End-of-Term One Form One and subsequent exams taken in secondary school. The null

6. Tables

Table 1: Change in Students’ Examinations Marks through Form One and Form Two

Change in Performance Index	Trend in academic performance	f	%	Cumulative f	Cumulative %
-39 to -30	Downward	16	4.2	16	4.2
-29 to -20	Downward	63	16.5	79	20.7
-19 to -10	Downward	147	38.5	226	59.2
-9 to 0	Unchanged	58	15.2	284	74.3
0 to 9	Unchanged	45	11.8	329	86.1
10 to 19	Upward	33	8.6	362	94.8
20 to 29	Upward	17	4.5	379	99.2
30 to 39	Upward	3	.8	382	100.0
Total		382	100.0	382	100.0

Table 2: The Chi-Square Frequency Output on Performance Index in End-of-Term Exams

	Change in Performance Index
Chi-square	300.932 ^a
df	7
Asymp. Sig.	.000

7. Equation

$$n = \frac{NZ^2pq}{E^2(N-1) + Z^2pq} \tag{3}$$

8. Summary and Conclusion

The study identified a significant change in marks that students score in examinations taken as they progressed

hypothesis (H₀) is therefore rejected in favour of the alternate hypothesis (H_A) that there is a significant difference in students’ academic performance between the End-of-Term One Form One and End-of-Term Three Form Two examinations marks among the secondary school students in Kiambu County.

With this observation, it is the finding of this research study that as students progress through Form One and Form Two in Kiambu County, their academic performance changes. Considering that the data from the Dean of studies, teachers and students agree that many students decline in academic performance, then it is the finding of this study that majority of the students in Kiambu County declines in their academic performance as they progress through Form One and Form Two.

The finding that majority of students tend to have their academic performance decline as they progress through Form One and Form Two agree with the study carried out by Cox and Shelley [4] which found a decline in the average examinations’ marks among students progressing through the formative years of their secondary school. The findings are also similar to those arrived at in the studies on academic performance among the students progressing through post-primary education institutions in Malta [5], Britain [8] and England [14].

Based on the observed frequency distribution on change in performance index among students in Kiambu County, the researcher further generalizes that in a group of 100 students joining Form One in Kiambu, 59 of them are likely to register a declining trend in their academic performance as they progress through the Form One and Form Two. This proportion is higher than the 17 percent identified among the secondary school students in New Zealand as reported by Cox and Shelley (2008). The researcher also observes that the highest drop in academic performance among students in Kiambu County was an index of 40, a figure that is lower than the 63 percent reported among secondary school students in Nigerian [1].

through secondary school, among students in public secondary schools in Kiambu County. Many of the students tend to score high marks in their first examinations upon transition to secondary school but as they progressed through secondary school, more than half of the students scored progressively lower marks in subsequent examinations.

The study concludes that there is a significant change in students’ examinations marks subsequent to what they score in their first examinations upon transitioning to secondary schools in Kiambu County and progressing through secondary school. In general, slightly over 50 % of the students joining Form One in any of the secondary school in Kiambu County will have their percentage marks in examinations drop by between 10 to 40percent.

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