

Subsidized secondary education policy on pass rates in Kenya certificate of secondary education in public secondary schools in Bungoma County, Kenya

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Abstract: Subsidization of the public secondary school education by the government of Kenya in 2008 witnessed a tremendous growth in the student population at this level of education. This scenario led to an over enrollment and a strain on the existing learning facilities and infrastructure in most public secondary schools in Kenya, including those in Bungoma County. Under these circumstances, the question that remained unanswered was ; what was the effect of the subsidized secondary education policy (SSEP) on the student pass rates in the Kenya certificate of secondary education (KCSE) in the public secondary schools in Bungoma County ? The purpose of this study was to analyze the change brought about by the SSEP on the student pass rates in the KCSE in public secondary schools in Bungoma County, Kenya. The findings of this study revealed that, the subsidized secondary education policy significantly improved the student pass rates in KCSE in the public secondary schools in the County, from a mean of 70.53% before the introduction of the subsidy, to a mean of 75.82% after introduction of the subsidy, with a p-value of less than 0.05 ($p < 0.05$). In conclusion, the SSEP improved the student pass rates in the KCSE. On the basis of the conclusion, it was recommended that the government should uphold the subsidized secondary education policy in public secondary schools, because it has the potential to sustain improved student pass rates in KCSE in public secondary schools in Bungoma County and Kenya at large.

Key words: effect, pass rates, public secondary school, subsidized secondary education policy

I. INTRODUCTION

The elimination of school fees is one of the strategies that have been adopted by several governments in the developing world in an attempt to reduce the burden of the cost of education on households, and improve the student/pupil enrollments and participation rates at the basic level of education (UNESCO, 2007). In countries such as; Malawi, Kenya, Tanzania and Zambia, the policy has improved enrollment at both the primary and secondary levels of education (Al-Samarrai and Hassan, 2000). Available data in a number of countries showed a drastic increase in the total student enrolment, in the year following the abolition of school fees. For example, it was : 11 percent in Lesotho (2001), 12percent in Mozambique (2005), 14 percent in

Ghana (2006), 18 percent in Kenya (2004), 23 percent in Ethiopia (1996), 23 percent in Tanzania (2002), 26 percent in Cameroon (2000), 51 percent in Malawi (1995) and 68percent in Uganda (1998) (UNESCO, 2007).

Ghana is one of the African countries that have implemented policies aimed at enhancing access to basic education (Akyeampong, Djangmah, Oduro, Seidu and Hunt, 2007). The most recent initiative in this direction, was the introduction of the Capitation Grant Scheme (CGS) in 2005. A study by Osei, Afutu-Kotey, Asem and Owusu (2009) examined the effects of capitation on education outcomes in Ghana. An econometric estimation model was used to assess the impact of CGS on; student enrollment, the Basic Education Certificate Examinations (BECE) pass rates, and the gender parity. Going by the findings of this study, CGS had no significant effect on the BECE pass rates. Further analysis also revealed that the capitation grants had no significant effect on bridging the gap between BECE pass rates for males and females. According to Lewin and Akyeampong (2009) the capitation grant in Ghana was more likely to create more problems for the improved future enrollments, unless the education system was prepared to deal with high student enrollments through the development of adequate infrastructure and the provision of incentives to reward schools which achieve internal efficiency and effectiveness.

The subsidized secondary education policy was launched in Kenya in 2008, on the basis of the recommendation by a task-force report of 2007 on affordable secondary school education that was presented to the ministry of education (Malenya, 2008). According to the Kenya National Bureau of Statistics (KNBS) report of 2009, introduction of the subsidized secondary education policy in 2008 resulted to an overall increase in the student enrollment in all public secondary schools in Kenya. Bungoma County like the rest of the country, also experienced a significant growth in the student enrollment in its public secondary schools after the subsidized education policy was introduced in 2008, as reported by the Bungoma County Education Office (2015). Though much was reported at both the national and county levels, on the effect

of the policy on student enrollment in public secondary schools, very little was documented about how the policy affected the student pass rates in KCSE. Although an increase in the student enrollment is a good thing, it is equally important to examine the academic performance of the students/pupils who enroll at any given level of education. This is because, academic performance is a good empirical measure of internal efficiency in education and of the effectiveness of a public policy, such as the subsidized secondary education policy (SSEP). The lack of knowledge on the effect of the SSEP constituted the gap which this study sought to fill.

1.1 Statement of the Problem

The subsidized secondary education policy (SSEP) was among other things expected to improve the academic performance of students in public secondary schools in Kenya, as measured by the results of the students in KCSE. The introduction of this policy in Kenya in 2008, led to an increase in the student population in all the public secondary schools in the republic of Kenya, including those in Bungoma County. The high student enrollment inevitably strained the existing learning facilities and infrastructure in most public secondary schools in the County, and posed a challenge on the academic performance of the students at this level. However, despite the improved student enrollment, not much was known about the effect of the SSEP on their pass rates in the KCSE. The problem of this study therefore was; what is the effect of the subsidized secondary education policy on the student pass rates in KCSE in the public secondary schools in Bungoma County, for the period 2009 to 2014? It was important to answer this question because, through the subsidized secondary education policy, the exchequer allocates a lot of money to public secondary schools annually.

1.2 Objective

To determine the effect of the subsidized secondary education policy on the student pass rates in KCSE in the public secondary schools in Bungoma County for the period 2009 to 2014.

1.3 Hypothesis

H₀: There is no significant difference in the student pass rates in the KCSE in the public secondary schools in Bungoma County for the period before and after the introduction of the subsidized secondary education policy in 2008.

H_A: There is a significant difference in the student pass rates in the KCSE in the public secondary schools in Bungoma County for the period before and after the introduction of the subsidized secondary education policy in 2008.

1.4 Assumption of the Study

This study was conducted under the assumptions that, apart from the subsidized secondary education policy, the other factors that could affect the student pass rates in KCSE such as; the student ability and motivation remained unchanged for the period before and after the introduction of the subsidized secondary education policy. And that, all the students who sat for KCSE between the period 2009 to 2014 from the public secondary schools in Bungoma County, benefited from the subsidized secondary education policy.

1.5 Limitations

This study was conducted under certain conditions that in one way or another weakened or limited the generalizability of its findings: The study did not control for some factors in the public secondary schools that could affect the student pass rates in KCSE such as; the ability and motivation of the student. These factors were considered to have remained unchanged for the period before and after the introduction of the subsidized secondary education policy (SSEP). The rationale behind this was that, the SSEP was the only major policy intervention that had so far occurred at this level of education in the recent past.

1.6 Delimitation

- i) The data on the student pass rates in KCSE, was restricted to the period 2002 to 2007 and 2009 to 2014. These periods respectively represented the years before and after the introduction of the subsidized secondary education policy.
- ii) The public secondary schools that were not in existence before the introduction of the subsidized secondary education policy were excluded from the study. This is because, such schools did not have the baseline information on the student pass rates in KCSE for the period before the introduction of the subsidized secondary education policy.

1.7 Conceptual Framework

Figure 1, shows the conceptualized relationship that exists between the subsidized secondary education policy (SSEP) and the student pass rates in KCSE in public secondary schools in Bungoma County for the period before and after introduction of the policy in 2008. The conceptual framework shows the state of the dependent variable (KCSE pass rates) before and after the introduction of the independent variable (subsidized secondary education policy) in 2008. The state of the dependent variable after introducing the subsidized secondary education policy for the period 2009 to 2014, constitutes the change that was associated with the subsidized education policy.

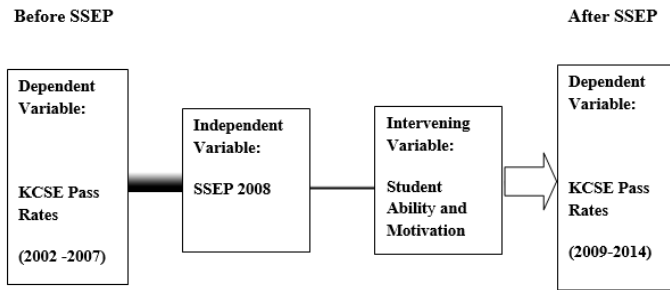


Figure 1: The conceptualized relationship between the SSEP and the KCSE pass rates in public secondary schools in Bungoma County.

Source: Researcher (2015)

The foregoing conceptual framework clearly shows the state of the dependent variable before (baseline KCSE pass rate data) the introduction of the subsidized secondary education policy and the state after (new KCSE pass rate data) the introduction of the subsidized secondary education policy in Bungoma County. The baseline data on the dependent variable was collected for the period (2002 to 2007), that is the duration preceding the introduction of the SSEP in 2008. While the new data on the state of the dependent variable was collected for the period (2009 to 2014), that is the duration after the introduction of the SSEP in public secondary schools. The difference between the baseline data and the new data, constituted the effect of the independent variable on the dependent variable.

The conceptual framework also recognizes the role of the intervening variables in modifying the relationship between the independent variable and the dependent variable. The intervening variables that were identified in this case are: student ability and motivation. However, these variables were not isolated and controlled for in the study. Consequently, they are provided as a limitation in the study. This study is anchored on the premise that, before the SSEP was introduced in public secondary schools in 2008, the student enrollment in most public secondary schools was low and their school attendance was poor due to the high cost of schooling attributed to the school fees burden on households. However, after the SSEP was introduced in 2008, there was a surge in the student enrollment and improved school attendance attributed to the reduced school fees burden on households. As a consequence, the subsidized secondary education policy indirectly led to a strain on the existing facilities and infrastructure, thus raising concern on the issue of the student pass rates in KCSE under the prevailing conditions in the public secondary schools. The focus on KCSE is rooted in the fact that, it is a terminal examination that marks the completion of the secondary school education cycle in the republic of Kenya. Therefore the student pass rates in this examination are critical and count a great deal with regard to determining their success later in life. It is on the basis of the foregoing observations, that it became necessary to carry out a study that could determine the effect of the SSEP on the

student pass rates in KCSE in the public secondary schools in Bungoma County.

II. METHODOLOGY

2.1 Research Design

This study used the descriptive survey research design. Kothari (2004) observes that, in a survey the researcher does not manipulate variables, but only collect information on what has already occurred. Therefore, surveys are mainly concerned with conditions or relationships that exist, opinions that are held, the processes that are going on and the effects that are evident or the trends that are developing. Because of the foregoing attributes, this design was found to be relevant and useful in the current study.

2.2 Locale

Bungoma County is located in western Kenya, and it occupies a total surface area of 3,032.4 Km². The County lies between latitude 00 28' and latitude 10 30' North of the Equator, and longitude 34 20' East and 35 15' East of the Greenwich Meridian. It borders the Republic of Uganda to the North West, Trans Nzoia County to the North East, Kakamega County to the East and South East, and Busia County to the West and South West (County Government of Bungoma, 2014). Though, the County has 275 public secondary schools with an eligible school age population of 150,738 children for this level, only about 11.0% of the population has secondary level of education (CJOB, 2013). Hence the need to for students to achieve good results in the KCSE, which also serves as a matriculate examination.

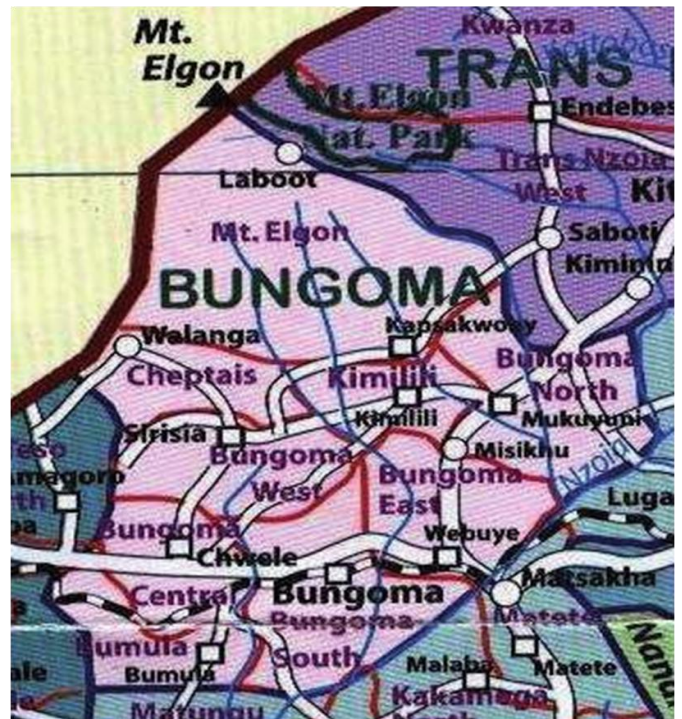


Figure 2 : Map of Bungoma County in Kenya

2.3 Population and Sample

The study population and sample comprised of 115 and 90 public secondary schools in Bungoma County respectively, as shown in table 1. The sample size was determined by applying the Krejcie and Morgan (1970), sample determination formula.

$$s = \chi^2 NP (1-P) \div d^2 (N- 1) + \chi^2 P (1-P)$$

Where:

- s = Sample size
- χ^2 = The table value of chi-square for 1 degree of freedom for the desired confidence level
- N= The population size
- P = Population proportion (assumed to be 0.50)
- d = The degree of accuracy expressed as a proportion (.05).

Table 1: Population and sample

Item	Population	Sample
Public Secondary Schools	115	90

Source: Bungoma County Education Office (2015)

2.4 Research Instrument

The research instrument comprised of a document analysis guide. The document analysis guide was used to collect data on the student enrollment and pass rates in KCSE in the public secondary schools in Bungoma County, over the period 2002 to 2014 .

2.5 Data Analysis

The data on student enrolment in the form four classes for the period 2002 to 2014, and the number of students who scored a mean grade of a D+ (D plus) and above in the KCSE over the same period was used to calculate the student pass rates in KCSE . The mean grade of D+ is considered by the Kenya National Examinations Council (KNEC) to be the threshold for a pass in KCSE . Consequently, any student who attained a score of D+ and above, at the end of the four years of study at the secondary school level was deemed to have passed and was therefore eligible for further training in the various professional disciplines based on merit . The above data was then used to calculate the student pass rates for each of the selected public secondary schools in Bungoma County, by applying the formula stated below :

$$Pass Rate = \frac{\text{Number of students who scored a D + and above in KCSE in the year}}{\text{Total student enrollment in Form Four in the year}} \times 100$$

The student pass rates that were obtained after the above calculation were then subjected to a paired sample t-test, to test for any significance difference in the student pass rates for period before and after the introduction of the subsidized secondary education policy in the public secondary schools.

III. RESULTS AND DISCUSSIONS

This section presents the findings and discussions of this study.

3.1 Effect of the subsidized secondary education policy on student pass rates in KCSE

The student pass rate in KCSE was determined by dividing the number of students who sat for the KCSE and scored a mean grade of D+ and above in a given year, by the total student enrolment in the form four class in that particular year. The following formula was applied to calculate the pass rates over the years for each of the sampled schools in the County.

$$Pass Rate = \frac{\text{Number of students who scored a D + and above in KCSE in the year}}{\text{Total student enrollment in Form Four in the year}} \times 100$$

In this study, the KCSE results for the six consecutive years (2002 to 2007) before introduction of the subsidized secondary education policy in 2008 were considered for the computation of the baseline student pass rates before the intervention. In addition, the KCSE results for the first six consecutive years (2009 to 2014) after introduction of the subsidized secondary education policy were also considered for computation of the new student pass rates after the intervention. By comparing the two sets of the student pass rates in KCSE, it was possible to determine the effect of the subsidized secondary education policy on the student pass rates in the County. The summary of the annual student pass rates in KCSE for the selected public secondary schools in the County, over the stated period (2002 to 2014) are tabulated in table 2.

Table 2 : The annual mean student pass rates in KCSE before and after the subsidized secondary education policy (SSEP)

Year	Number of Schools	Mean Pass Rate (%)
2002	90	65.64
2003	90	69.62
2004	90	73.15
2005	90	74.62
2006	90	71.12
2007	90	69.04
Mean before SSEP		70.53
2009	90	73.96
2010	90	75.40
2011	90	76.30
2012	90	75.55
2013	90	75.14
2014	90	78.88
Mean after SSEP		75.87

Source: Document Analysis Guide (2015)

Table 2, revealed that the mean annual student pass rates in KCSE in the public secondary schools for the period before

the introduction of SSEP were lower when compared to those for the period after the SSEP was introduced. The mean pass rate before the SSEP was 70.53%, while the mean pass rate after the SSEP was 75.87% . This implied that after the SSEP was introduced, the proportion of students who completed the fourth form and scored a result of a D+ (plus) and above in KCSE increased by about 5.34%. The lowest annual mean pass rate was 65.64% and this was recorded in the year 2002, a few years before the tuition fees waiver was introduced. While the highest annual mean pass rate was 78.88% , which was achieved in 2014, a few years after the introduction of the SSEP. In order to establish whether there was any statistically significant difference in the student pass rates for the period before and after the SSEP, a paired sample t-test was applied to test the null hypothesis.

3.1.1: Testing the hypothesis

H₀ : There is no significant difference in the student pass rates in KCSE in public secondary schools in Bungoma County for the period before and after introduction of the subsidized secondary education policy.

H_A : There is a significant difference in the student pass rates in KCSE in public secondary schools in Bungoma County for the period before and after introduction of the subsidized secondary education policy.

The mean pass rates for the period before and after introduction of the SSEP were calculated for each of the 90 individual public secondary schools to facilitate for the testing of the null hypothesis. The mean pass rates for the individual schools were then subjected to the paired sample t-test analysis using the statistical package for social sciences (SPSS). The results of the analysis are as shown in table 3.

Table 3: The paired sample t-test results for the annual mean pass rates in KCSE

Pair 1	Mean	SD	C.I	t value	df	Sig (2-tailed)
Overall mean before SSEP						
	-5.34%	10.82	95%	4.64	89	0.000
Overall mean after SSEP						

Source: SPSS paired sample analysis

Table 3, shows that there was a difference of - 5.34 percent between the overall mean pass rate in KCSE before the SSEP and the overall mean pass rate in KCSE after the SSEP was introduced. The negative sign implies that the student pass rate in KCSE was higher for the period after introduction of the SSEP. The t-statistic was 4.638 and the level of significance was $p = 0.000$. Since the p-value was less than 0.05 ($p < 0.05$), the null hypothesis was rejected. This means that, introduction of the SSEP contributed significantly to the improved student pass rates in the KCSE in the public secondary schools in Bungoma County. These findings are slightly different from those in a study carried out by Osei et

al.(2009) on the effect of capitation on education outcomes in Ghana. In that study, when an econometric estimation model was used to assess the impact of capitation grants on the Basic Education Certificate Examination (BECE) pass rate, it emerged that the capitation had no significant effect on the BECE pass rate . The differences in the findings of these two studies could be attributed more to the duration over which the studies were conducted, other than the effect of the government subsidy. For example, while the current study considered the student pass rates over a period of 12 years, the study by Osei et al considered the student pass rates over a period of one year only.

IV. CONCLUSION

Based on the findings, this study concludes that : The subsidized secondary education policy had a significant positive effect on the student pass rates in KCSE in the public secondary schools in Bungoma County.

V. POLICY RECOMMENDATIONS

On the basis of the findings of this study, the following policy recommendation was made: The government should uphold the subsidized secondary education policy in the public secondary schools because it has the potential to improve and sustain student pass rates in KCSE in the public secondary schools in Bungoma County and Kenya at large.

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