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RESEARCH ARTICLE

IMPACT OF FREE SECONDARY EDUCATION POLICY ON SECONDARY SCHOOL STUDENT ACADEMIC PERFORMANCE IN KENYA: A CASE STUDY OF MBITA AND SUBA SUB-COUNTIES

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ABSTRACT

Immediate Free Secondary Education policy was introduced in Kenya in 2008 with an aim of making secondary education affordable to enhance student academic performance. The influence seem to have been low in Mbita and Suba Sub- Counties where the academic performance mean scores in Kenya Certificate of Secondary Education for the period 2011 to 2014 were low at 5.0 and 5.1 for Mbita and Suba Sub counties respectively. The objective of this study was to determine the influence of Free Secondary Education policy on student academic performance in Mbita and Suba Sub-Counties. A conceptual framework based on the Psacharopoulous and Woodhall (1985) concept of investment choices was adopted to determine the influence of Free Secondary Education policy on student academic performance. The study adopted ex-post facto and correlational research designs. The study population consisted of 37 principals, 2775 form four students of 2014, 1 Sub-County Schools Auditor and 2 Sub –County Quality Assurance and Standards Officers. The study sample consisted of 34 principals, 1 SCSAs, 2 Sub –County Quality Assurance and Standards Officers. Questionnaire, Interview Schedule and Focused Group Discussion were used to collect data. Face and content validity were established by supervisors whose input was included. Reliability coefficient of principal's questionnaire was established using test re-test method and correlated using Pearson's r. The outcome was that the reliability coefficient was 0.8 at the set p-value of .05 meaning that it was reliable. The study findings revealed that Free Secondary Education policy accounted for 31.2% of variation in student academic performance as signified adjusted R square by coefficient of 0.312. This means that increase in Free Secondary Education funding of Kshs. 10,265 resulted in increase in academic performance as indicated by the coefficients. The study concluded that Free Secondary Education policy influenced student academic performance. The study recommended that, the government should therefore increase capitation fees for each student to increase student academic performance. The findings of the study are significant to the Ministry of Education, planners, educators, parents and policy makers by informing them on the need to develop strategies to improve or redesign Free Secondary Education policy so as enhance further access, transition and student academic performance.

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INTRODUCTION

Free Secondary Education policy was introduced in Kenya in 2008 with the aim of making secondary education affordable (Ministry of Education, 2007). The social pillar in the Vision 2030 also singles out education as an important vehicle that will propel Kenya into becoming a middle-income economy. In addition, the Constitution, 2010 has provided for free and compulsory Basic Education as a human right to every Kenyan child (Ministry of Education, 2012). Free Secondary Education policy was expected to provide an equal opportunity to all children of secondary school going age entry to secondary education regardless of their social class, gender, and ethnic background, physical and mental disability (Ngeno, 2015). Free Secondary Education policy as adopted and implemented by the government was as follows: The government subsidy (Free Secondary Education funding) to schools was based on capitation. That is, Free Secondary Education policy put in place funding of Ksh. 10,265.00 per child per year. The breakdown of the Free Secondary Education subsidy was as shown in Table 1. From Table 1, it was observed that Tuition and Personal Emoluments received more funding. The aim was to improve access, transition and student academic performance. The Tuition vote head was meant to ensure that teaching resources are available and personal emolument vote head cushioned against staff shortfalls. In Kenya, a task force

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on the realignment of the education sector to the constitution of Kenya 2010 (Ministry of Education, 2012) points to a gloomy picture. The report indicates that the issues and challenges of secondary level are similar to those of the primary sector. The introduction of Free Primary Education in 2003 and Free Secondary Education in 2008 notwithstanding, there is no total access as not all children who should be in school are in school due to high cost of secondary education especially boarding militates against access (Ministry of Education, 2012).

Table 1. Vote heads

Vote head	Amount (Kshs)
Tuition	3,600.00
Repair, maintenance and improvement	400.00
Local travel and transport	400.00
Administration cost	500.00
Electricity, water and conservancy	500.00
Activity fees	600.00
Personal emoluments	3,965.00
Medical	300.00
Total school fees	10,265.00

Source: Republic of Kenya (2009), Guidelines for Implementation of Free Secondary Education

According to Republic of Kenya Economic Survey (2015), total enrolment nationally rose by 9.5% from 2.1 million in 2013 to 2.3 million in 2014. Gross enrolment rate increased from 54.3% in 2013 to 58.2% in 2014. This significant improvement is partly attributed to the implementation of Free Secondary Education. However, the situation in Mbita and Suba Sub- Counties does not reflect this achievement. Results of 2009 population data (Republic of Kenya, 2010) showed that 207 million (76%) of children who should be in school are out of school in Kenya. Consequently, in Mbita and Suba Sub-Counties which were one district in 2009 had only 26,606 students at secondary out of 188,976 of the age group of those who should be at school. Further, comparing Homa-Bay and Rachuonyo, Suba had the highest percentage of children who had left school 71,652(41.7%) compared to Homa-Bay which had 126,340 (38.8%) and Rachuonyo 134,785 (39%). In spite of the Government commitment, the Task Force on the Re-Alignment of the education sector to the constitution of Kenya (Ministry of Education, 2012) cautioned that the introduction of Free Secondary Education is facing stiff challenge relating to access and quality. It is reported that there is no total access as not all children who should be in school aged (13-17 years) are in school. There is no equity in accessing quality which has been complicated by severe shortage of teachers and inadequate learning materials leading to poor quality (Ministry of Education, 2012). A pertinent question one has to ask at this point; what influence does Free Secondary Education policy have on secondary school education Sub- sector with regard to access?

According to Ministry of Education (2012) Mbita and Suba Sub- Counties, now separate Sub- Counties were once one district until the year 2010 when they were separated. Data available from the two Sub- Counties indicate that in 2010, Suba had a total enrolment of 3, 595 (2151-boys and 1395-girls) while Mbita had a total enrolment of 4948(3376-boys and 1572-girls). Suba reflected only 25% out of 3546 students while Mbita 33% out of 4948 students access. From this statistical evidence, there is mismatch between the current trends in enrolment rates in Suba and Mbita Sub- Counties vis-a-vis the national government achievement of 47.8% in the entire Country. Similarly, the reviewed studies did not address the effect of Free Secondary Education policy on access, transition rates and student academic performances in Mbita and Suba Sub- Counties. Table 1.3 shows enrolment per Sub-County in Homa-Bay County in 2013. The record indicates that Mbita Sub-County had 5,272(8%), while Suba Sub-County had 6,034(9%) and Ndhiwa 9,581(15%). The three Sub- Counties had the lowest enrolment record compared to other Sub- Counties in Homa-Bay County. Although Ndhiwa Sub-County had low enrolment, it was not selected because the study on it is ongoing. The reviewed studies did not address access, student academic performances and transition in Mbita and Suba Sub- Counties.

Table 2. Enrolment per Sub-County in 2013

Sub-County	Total Enrolment	Percent
Homa-Bay	15,478	24
Mbita	5,272	8
Ndhiwa	9,581	15
Rachuonyo North	10,110	16
Rachuonyo South	17,963	28
Suba	6,034	9
Total	64,438	100

Source: Homa-Bay County Education Office, 2015

The general performance of Kenya Certificate of Secondary education examination explains the level of quality of secondary education (Gogo, Ayodo & Othuon, 2010). Coombs (1968) defined quality of education as that education being offered that fits the real needs and values currently and prospectively of a given country. Therefore quality education is the degree of achievement in education as evidenced in national examinations, transition from one level to the next and access. The first cycle of students who benefited from Free Secondary Education policy graduated in 2011(Ngeno & Simatwa, 2015). On student academic performances UNESCO (2011) comparing education statistics across the world noted that both national and cross-national studies have shown that low levels of learning achievement in school Subject exists in school system in both developing and developed countries. However, they are much more widespread in developing countries. The quality of education as measured by student performances in national examinations is considered as below average standards (Ongiri & Abdi, 2004 cited in Rono, Onderi & Awino, 2013).

Ongiri and Abdi further reported that many of the Kenya's 4000 secondary schools had bad examination results and that there are about 600 schools that excel and if a student is not in any of these schools he or she is not expected to get a credible grade. Majority of the schools fell short of providing for the learning needs of their students leading to poor performance. According to Republic of Kenya Economic Survey (2015), the number of candidates who scored a minimum university entry score of C+ and above increased nationally by 21.4% from 123,374 in 2013 to 149,717 in 2014. The number of candidates who scored "A" increased by 12.9% from 2,722 in 2013 to 3,073 in 2014. However, this was not reflected in Mbita and Suba Sub- Counties. Munda (2010) analyzed the relationship between selected educational facilities and student academic performance in secondary schools in Bungoma District, Kenya. They established that classrooms and laboratories made critical contributions to performance. Therefore facilities in addition to teachers contributed positively to students' academic performance. Oseno, Nyakundi, Nyakundi and Nyakundi (2013) examined factors influencing performance of

pupils on transition from lower primary to upper primary in Ekerenyo Division, Nyamira County, Kenya. Research design was survey. The study targeted all teachers and education officers in the division from which a sample size of 109 respondents were obtained. Quantitative data from questionnaires were analyzed using simple statistics. Qualitative data from interview and observation schedule were analyzed thematically. The findings established that performance was intertwined with transition of pupils from a lower level to a higher level. Pupils who did well in learning became more motivated and interested in proceeding to the next level of learning (Oseno *et al*; 2013). A paper presented by Rono and Onderi (2013) examined perceptions of the causes of poor academic performance amongst selected secondary schools in Kericho Sub County; implications for school management. A descriptive cross sectional research design was used. A stratified random sampling was used to select public secondary school and teachers who included a principal and four teachers. At the same time, 8 students and 2 parents from each sampled schools were involved. The study embraced both qualitative and quantitative methods of data collection and analysis. Data was collected from 21 secondary schools and a total of 38 respondents were contacted. Data was analyzed using SPSS with use of frequencies and mean deviations. Rono and Onderi (2013), examined the relationship between Socio Economic Status and student's academic performance. The study reported that the majority of the respondents rated at 36.8% agreed that the level of income of parents influenced a child's academic performance. 26.4% strongly disagreed, 18.4% strongly agreed and 18.4% disagreed. This implied that socio-economic status might determine student's academic achievement. This is what Free Secondary Education was supposed to tone down and create a level field for all the students. This necessitates a study to find out if the same status is still maintained or not.

Table 3. Homa-Bay County Kenya Certificate of Secondary Education 2011-2014 Mean Standard Score Analysis

Sub-County	2011	2012	2013	2014	Overall MSS
Homa Bay	6.3	6.17	6.3368	6.8045	6.4
Rachuonyo South	6.1	5.44	5.5993	6.0236	5.8
Ndhiwa	4.9	5.25	4.4209	4.4794	4.7
Mbita	5.6	5.12	4.6055	4.7766	5.0
Rachuonyo North	5.4	4.91	5.45	5T.806	5.3
Suba	5.2	4.73	5.2400	5.3181	5.1

Source: Homa-Bay County Education Office, 2014

Ngeno (2015) established that the influence of Free Secondary Education policy on students' academic achievement was moderate and positive with a coefficient of 0.69, that is, an increase in Free secondary education funding accounted for an increase in student academic performance but with moderate effect. All over Mbita and Suba Sub- Counties, there was a consensus of opinion about poor performance in academics. Performances in almost all Subjects in Kenya Certificate of Secondary education were wanting. In Kenya Certificate of Secondary Education 2013 in Mbita only 14% while Suba 10.1% of the total candidates that year scored B grade and above which is a direct university entry requirement. This calls for an evaluation of the influence of Free Secondary Education policy on student academic achievement in the area of study. However, according to Sifuna and Oanda (2014), the progress towards Education For All goals is insufficient: the world is not on track to achieve Education For All by 2015. Majority of the countries in Sub Saharan Africa, India and Pakistan are at the serious risk of not achieving Education For All without drastic changes in their present trajectories. In a large measure, this could be attributed to low funding (Sifuna, 2014). Table 3 shows Kenya Certificate of Secondary Education performance between 2011-2014 in Homa-Bay County. From Table 3, overall assessment of Homa-Bay County indicates that both Rachuonyo North and South Sub-counties and Homa-Bay Sub-county are doing better than Mbita, Suba and Ndhiwa Sub-counties. Although Ndhiwa showed the least student academic performance, the Sub-county was not selected because a study on it is on-going. Abagi and Oanda (2014) observed that the disparities in performance at secondary school have persisted despite a series of policy interventions like Free Secondary Education. One of the reasons for the persisting inequalities is noted in government funding policy in education sector. However, it is unknown the extent to which Free Secondary Education policy has influenced student academic performance in Mbita and Suba Sub-counties.

Synthesis of literature on free secondary education policy on student academic performance

The general performance of Kenya Certificate of Secondary Education examination is an indicator of the output of secondary education as it explains the level of quality of secondary education (Gogo, Ayodo & Othuon, 2010). The researchers viewed quality in terms of performance in examination but the author of Global Education Digest has contrary view. The author said that quality of education can be examined in several ways: first, does education produce individuals who are competent and skilled? UNESCO (2011) comparing education statistics across the world noted that both national and cross- national studies have shown that low levels of learning achievement in school Subjects exist in school system in both developing and developed countries, although they are much more widespread in developing countries (UNESCO, 2011). Low levels of academic achievement tend to be much prevalent among students from relatively disadvantaged family background. This confirms Todaro's argument that poor performance merely reflect the economic background of the child hence the need to examine if Free Secondary Education has any effect on quality (Todaro, 1994).

High performing students regardless of their family background, tend to have common characteristics. For instance studies have pointed out that successful students tend to be more motivated and confident learners, have the necessary support in their home environment, spend adequate amount of time on challenging tasks and attend school with positive disciplinary climate and sufficient resources (UNICEF, 2011). Intended instruction time is an important educational resource. This indicator measures the quantity of education a student receives and provides an insight to educational quality. Scholars argue that intended instruction time accounts for a large part of public spending on student learning; as such increasing instruction time may entail an increase in financial costs by hiring more teachers or by compensating existing teachers to teach longer hours, (UNICEF, 2011). While this policy may be intended to improve education for students it could also lead to decrease in the quality of teaching if teachers have less time to prepare lessons (UNICEF, 2011). Conversely, although there are official school requirements regarding hours of instruction, schools may fail to meet these standards for different reasons, such as insufficient numbers of trained teachers, teacher absenteeism and strikes, natural

disasters and a number of other factors (UNESCO, 2011). Moreover, in many countries instruction time varies substantially between regions and types of schools. Instruction time is relatively low in Poland, Indonesia, Sweden and Slovenia while it is relatively high in Mexico, Jordan, Malaysia and the Philippines (UNESCO, 2011). There are also important variations across countries regarding the share of compulsory instruction time devoted to reading and writing, and science. For reading and writing this share ranges from 11% in Japan and Portugal to 28% in Ireland; and for science it varies from 5% in Luxemburg to 24% in the Russia Federation which coincides with a relatively low focus on teachers' salaries. There are significant constraints to hiring additional teachers, particularly in many developing countries. Globally, the quality of education is related to time allocation in learning, number of teachers and their remuneration and learning resources.

In relation to input, a number of factors continue to hinder the provision of quality education for the majority of Kenya students (Keriga, 2009). However, poverty and inequality remain the major contributing factor in ensuring access to relevant information and content within the Kenyan education system. Inequalities continue to be apparent features of the provision of quality education. On the other hand, more affluent institution of learning often has well equipped laboratories, classrooms and instructional materials. On the other hand however, low income, private, public and district schools are often characterized by lack of infrastructure, learning equipment and facilities. Ironically, the introduction of Free Primary Education has been cited as exacerbating the aforementioned problems (Keriga, 2009). The continued poor public school performance in the Kenya Certificate of Primary Education could also act as a barrier to secondary education access. Data from the 2004 KCPE examination shows that 77% of private school candidates qualified for secondary school by scoring over 250 points, while only 45% of students in public schools qualified (Glennerster, Kremer, Mbiti *et al*, 2011). There is need to address the root causes of private-public performance gaps which is also transferred at secondary school level. This disparity in the performance between private and public primary schools has led to a continued overrepresentation of private school graduates in the elite National secondary schools (Glennerster *et al*, 2011) overall, student performance in the Kenya Certificate of Secondary Education examination was poor.

In 2008, only 25% of the students scored at least a C+ on the Kenya Certificate of Secondary Education examination, with girls being less likely than boys to score a C+. The performance was weakest in District schools, where only 11% of students scored at least a C+ compared to 43% in provincial schools and 90% in national schools. The differences in performance across these types of schools partly reflects differences in facilities, teachers and other resources but also reflects the different levels of academic preparation of the students admitted to these schools. (Glennerster *et al*, 2011). It is becoming increasingly important to implement programs that address quality of education. Bold (2010) examined whether abolishing fees reduced school quality in Kenya. They observed that the introduction of free primary education at primary school level led to a decrease in public school quality. Within the context of supply- and – demand model there was shift in demand for public schooling and an increase in demand for private schooling due to search for quality education. They went ahead to examine the mechanism linking the abolition of fees to school quality and observed that: one, the total level of funding available in the education sector or as per pupil basis might change. The lost revenue to local schools due to the ban on raising fees from parents weighed against an increase in public finance for education.

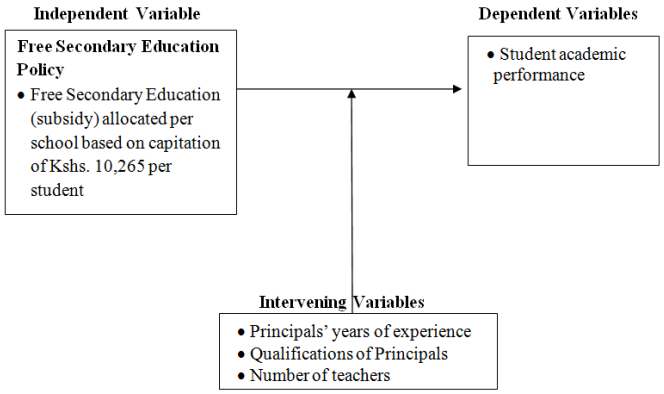
Two, Free Primary Education might have led to a change in the pool of students in public primary schools: As fees are abolished, many more children could access education. The children who accessed education after 2003 could have been different from existing students in terms of socio- economic background, age and ability (Bold, Kimenyi, Mwabu & Sandefur, 2010). Wango (2009) reiterated that development in Kenyan education system had been attracting interest over the past few years including a politically motivated policy debate on free primary and secondary education. But more importantly and increasingly in an educational value context are issues to do with quality and system of education. Questions about the educational process and its impact and the cost of undertaking such intensive programmes such as resources placed in education including its relevance are being asked even louder. In future schools will be expected to produce even better results and the quality of education in each stage will be expected to improve. Gogo (2010) studied the impact of cost sharing on access, equity and quality of secondary education in Kenya.

He concluded that the student teacher ratio was high and inadequate physical facilities affected teaching and hence performance. Gogo (2010) further established that cost sharing strategy was associated with an increase in dropout rate and this was attributed to lack of school fees. However the situation now is quite different in that the government is providing free secondary education but there are a number of unanswered questions. The question is whether there was any relationship between Free Secondary Education funds and improved performance. Amunga (2010) examined the influence of school's performance index on enrolment in Kakamega south district secondary schools. He established that schools are ranked in national examinations in Kenya according to performance index. This implies that the higher the mean score, the better the rank. This in turn influences the demand for places in certain schools while at the same time reducing the demand in others. However, a number of questions have been asked of reasons leading to different quality. Ministry of Education (2012) in its findings established that there is severe shortage of teachers or understaffing, which combined with inadequate learning materials, lead to poor quality.

At the same time there is inadequate Quality Assurance Services due to a combination of factors (Ministry of Education, 2012) among them; shortage of Quality Assurance and Standard Officers, shortage of resources such as vehicles and budgetary allocations to carry out work and inadequate relevant training on quality assurance. The upsurge in pupil enrolment at primary schools had a negative effect as had been cited earlier. The drop in quality of education is due to understaffing, inadequate learning materials and crowded classrooms. As these factors persist, the quality of education continues to suffer with the consequences. Comparing student performances in Mbita and Suba Sub- Counties with Homa-Bay Sub- Counties, it was clear the two sub- counties mean scores were lower despite the fact that they are located in the same County.

Conceptual Framework

This study was based on Psacharopoulous and Woodhall (1985) concept of investment choices. The concept was relevant because the government made a choice to invest in education in order to improve access, transition and student academic performance. The conceptual framework postulates that provision of Free Secondary Education funds to secondary schools directly affects quality of education. Availability of Free Secondary Education funds was expected to increase demand for secondary education with more students expected to enroll in schools hence increase access. As a result of increased access and financial support, it was expected that there would be increase in students transitioning from primary to secondary. Free secondary education funding enabled schools to provide resources to students especially candidates and this was expected to improve academic performances. However, academic performance may be confounded by experience of the principals, number and motivation of teachers in schools and student home environment such as social economic status of the households and distance to schools. To measure effect of free secondary education on students academic performance, intervening variables, principals' years of experience and number of teachers are controlled through assumption that most Principals were experienced in matters of school administration. Indeed 21(61.8%) had experience of 6-11 years. Most Principals 32(94.1%) had first (Undergraduate) and Masters Degrees. That is, they were qualified and mastered the administration of students.



Source: Adapted from Psacharopoulous and Woodhall (1985) model

Figure 1. Conceptual Framework showing the influence of Free Secondary Education policy on student academic performance

The model was adapted by using Free Secondary Education policy as the independent variable, dependent variable as access, transition and student academic performance. Influence of free secondary education funding was moderated by principals' year of experience, qualifications of Principals and number of teachers as intervening variables. That is, these intervening variables when favourable had positive effect on the influence of Free Secondary Education on students' academic performance and vice versa. These variables were controlled by assumptions that through random sampling some had favourable and some had unfavourable moderating effects on free secondary education funding influence on students' academic performance in equal measures.

RESEARCH METHODOLOGY

The study adopted *ex-post facto* and correlational research designs. The study population consisted of 37 principals, 2775 students, 1 Sub-county Schools Auditor and 2 Sub –county Quality Assurance and Standards Officers. The study sample consisted of 34 principals, 1 Sub-county Schools Auditor, 2 Sub –county Quality Assurance and Standards Officers who were selected using saturated sampling technique and 337 form IV students of 2014 who were selected using simple random sampling technique. Questionnaire, Interview Schedule, Focus Group Discussion and Document Analysis Guide were used to collect data. Face and content validity of the questionnaire was established by supervisors by including their input. Construct validity was determined by correlation. Reliability of instruments was established through a pilot study in 3 schools using test-retest method whereby the principal's questionnaire had a coefficient of 0.79 which was greater than the set P-value of 0.05 and therefore was reliable.

RESULTS

Demographic Characteristics of Principals

The demographic data of principals were as shown in Table 4.

Table 4. Demographic Characteristics of Principals

Demographic Characteristics	Frequency (f)	Percentage (%)
Gender of Principals		
Male	26	76.5
Female	8	23.5
Total	34	100.0
Highest Education Level	2	5.9
Diploma	20	58.8
Graduate	12	35.3
Masters		
Total	34	100.0
Year of Experience	13	38.2
1-5 years	12	35.3
6-10	9	26.5
11 and above		
Total	34	100.0

Out of 34 principals who participated in the study, 26(76.5%) were male while the rest 8(23.5%) were female. Both male and female respondents were represented. Majority of the principals 20(58.8%) were graduates followed by masters graduates 12(35.3%) and only 2(5.9%) were diploma holders. This is a reflection of a generally high level of education among principals. Majority of the principals 38.2% (n=13) had 1-5 years of experience while 12(35.3%) and the rest 9(26.5%) had more than 10 years' experience. According to Wahlstron (2008) leadership of the principal is known to be a key factor in supporting student achievement. Educational leadership can have strong, positive though indirect, effect on student learning and teacher performance (Seashore, 2010). This information is relevant to the study as principals have knowledge of the Free Secondary Education policy and trends in enrolment and student academic performance.

School Data

The school data was as shown in Table 5.

Table 5. School Data

Size	n	%
Small (Single stream)	17	50.0
Medium (Double stream)	12	35.3
Large (Triple stream and above)	5	14.7
Total	34	100.0

Table 6. Descriptive Statistics for free secondary education funds and Academic performance 2008-2014

All schools			Small Schools			Medium Schools			Large Schools		
S/N	FSE Funds	MSS	Size	FSE	MSS	Size	FSE	MSS	size	FSE	MSS
101	1036765	3.992	36	369540	4.56	144	1478160	4.274	342	3510630	6.513
63	646695	4.317	22	225830	4.27	148	1519220	5.4562	311	3192415	4.441
123	1262595	4.531	153	1570545	3.648	191	1960615	4.311	501	5142765	7.179
98	1005970	4.605	165	1693725	5.395	101	1036765	4.785	762	7821930	8.872
101	1036765	3.992				132	1354980	5.903	298	3058970	5.221
197	2022205	4.164	46	472190	3.47	79	810935	5.837			
26	266890	3.907	25	256625	3.7	242	2484130	5.0			
187	1919555	4.615	63	646695	4.317	187	1919555	4.615			
342	3510630	6.513	30	307950	3.648	197	2022205	4.164			
69	708285	4.02	22	225830	5.27	242	2484130	5.114			
242	2484130	5	125	1283125	7.43	123	1262595	4.531			
60	615900	3.14	60	615900	3.14	157	1611605	4.487			
311	3192415	4.441	69	708285	4.02						
125	1283125	7.43	26	266890	3.907						
22	225830	5.27	101	1036765	3.992						
30	307950	3.648	98	1005970	4.605						
63	646695	4.317	62	636430	3.4						
501	5142765	7.179									
79	810935	5.837									
132	1354980	5.903									
25	256625	3.7									
46	472190	3.47									
101	1036765	4.785									
165	1693725	5.395									
191	1960615	4.311									
153	1570545	3.648									
762	7821930	8.872									
22	225830	4.27									
148	1519220	5.4562									
144	1478160	4.274									
298	3058970	5.221									
36	369540	4.56									
157	1611605	4.487									
5120	52,556,800	4.82637*	1103	11,322,295	4.2983	1,943	19,944,895	4.8731*	2,214	22,726,710	6.445*

Key: *mean scoreFSE –Free Secondary EducationMSS- Mean Standard Score
Source: Field Data, 2015

Table 7. Correlation between overall Free Secondary Education policy and academic performance

		Performance
Free Secondary Education	Pearson Correlation	.577
	Sig. (2-tailed)	.000
	N	33

A total of 34 public secondary schools participated in the study. Out of which 19 were from Mbita and 15 from Suba Sub-County. The schools were classified as small, medium and large based on number of enrolments from 2008 to 2014 cumulatively. Small schools were schools with enrolment that ranged cumulatively between 128-933 students; medium schools had between 1115-1697 and large schools had 2085 to 5650 students. From Table 4.3 it can be observed that out of 34 schools, 17(50%) were classified as small, 12 (35.3%) were medium and 5(14.7%) were classified as large. According to Leithwood (2009) there is differential effect of school sizes on educational outcomes. The author argued that the weight of evidence from their study favours smaller schools.

They argued that students who traditionally struggle at school and students from disadvantaged social and economic backgrounds are the major beneficiaries of smaller schools. Secondary schools serving exclusively or large diverse and/or disadvantaged students should be limited in size to about 600 students or fewer, while secondary schools serving economically and socially heterogeneous or relatively advantaged students should be limited in size to about 1000 students (Leithwood & Jantzi, 2009). The relevance of this information to the study is that the size of the school is considered to have influence on the total Free Secondary Education funds received, transition rates and academic performance. The analysis of this study was stratified by school size to reflect possible effect of school size on the study outcomes.

Research Objective

The research objective was to determine the influence of free secondary education policy on student academic performance. To address this objective the null hypothesis: Free secondary education policy does not have impact on student academic performance in Mbita and Suba Sub- Counties was generated. To respond to this hypothesis data on enrolment and free secondary education funds were collected and computed and the results were shown in Table 6. The 34 schools were classified into three categories namely; small (n=17), medium (n=12) and large schools (n=5). Small schools were those schools which received below Kshs. 10 Million, medium schools received (Kshs. 10-20 million) and large referred to schools which received at least Kshs. 20 million cumulatively. Overall free secondary education funds received by all schools for form four candidates were Kshs. 52,556,800. Small secondary schools received Kshs. 11, 322,295 while large secondary schools received a total of Kshs. 22,726,710. Medium schools received Kshs. 19,944,895 for Kenya

Certificate of Secondary Education candidates. The Kenya Certificate of Secondary Education overall mean performance score for all the 34 schools was 4.8263. In small schools, the mean index was 4.2983, while for medium schools, the mean was 4.8731 and for large schools the mean 6.445. In order to establish the relationship between Free Secondary Education policy and academic performance, a Pearson correlation analysis was performed between free secondary education policies on student academic performance. The results were as shown in Table 7. Table 7 shows that there was a moderate, positive and significant correlation between Free Secondary Education policy and academic performance ($r=.577$, $n=33$ $p<.05$). The null hypothesis was therefore rejected. Scatter gram was generated to illustrate graphically the relationship between Free Secondary Education funding and student academic performance (Figure 2). The scatter gram indicates a positive correlation. A regression line, best fit reveals further the correlation between variables. The coordinate points are scattered around the line of best fit indicating that the relationship between the two variables was real and not by chance.

Secondary Education examination mean standard score improved by 1.0 mean score. Since a linear relationship was established it was then possible to compute a coefficient of determination to estimate the impact of free secondary education policy on student academic performance. From Table 7, it can be noted that Free Secondary Education funding accounted for 31.2% of the variation in student academic performance as signified by the adjusted R square of .312. The other 68.8% could be explained by other factors. To establish whether Free Secondary Education policy was a significant predictor of student academic performance, ANOVA was computed and the results were as shown in Table 9. The result of ANOVA analysis showed that Free Secondary Education was significant of student academic performance ($F(1, 31) =15.479$, $p<.05$). To establish the actual influence of Free Secondary Education policy on student academic performance simple regression analysis was computed. The result was as shown in Table 10. The result shown in Table 10 indicates that one unit increase in free secondary education funding increased students performance by .745 units. The regression equation was students' performance =4.831 +.745X.

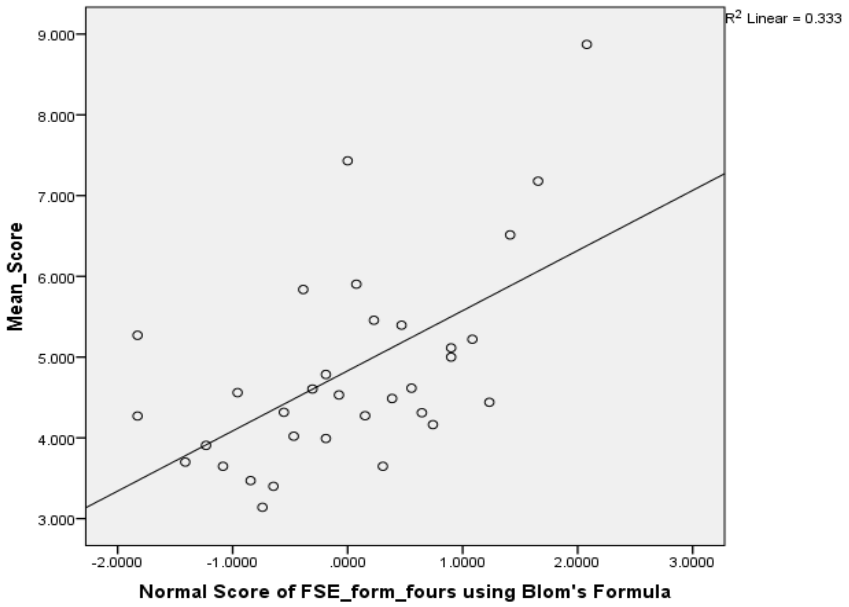


Figure 2. A Scatter gram showing the relationship between Free Secondary Education funding and student academic performance

Table 8. Regression analysis of Free Secondary Education policy and student academic performance

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.577a	.333	.312	1.0365779

a. Predictors: Free Secondary Education

Table 9: Analysis of Variance of Free Secondary Education policy and Student Academic Performance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	16.632	1	16.632	15.479	.000[b]
	Residual	33.309	31	1.074		
	Total	49.942	32			

a.Dependent Variable: Performance
b.Predictors: (Constant), Normal Score of Free Secondary Education

From Figure 2 it can be observed that one unit increase in free secondary education funding led increase in student mean score. The increase in free secondary education funding by Ksh.10, 265 improved student academic performance by at least 1.0 mean score. This means that with additional Free Secondary Education funding the Kenya Certificate of

To rigorously interrogate the influence of Free Secondary Education policy on students' performance, schools were categorized into small, medium and large based on student population from 2008-2014, where small schools student population range was 128-933, medium 1115-1697 and large 2085-5650. Correlations and regression analysis were computed. The results were as shown in Tables 11 to 15.

The results in Table 11 shows that the relationship between Free Secondary Education policy and student academic performance in small schools was positive, weak and not significant (r =.243, N= 16; p>.05). To estimate the influence of free secondary education policy on students' academic performance in small schools coefficient of determination was computed and the results were as shown in Table 11.

The results were as shown in Table 14. From Table 14 it can be established that the impact of Free Secondary Education policy was 5.5% as signified by R square of .055. The other 94.5% was due to other factors. This relationship was however not significant. Therefore there was no need to confirm whether the Free Secondary Education was a significant predictor.

Table 10. Simple Linear Regression of Free Secondary Education policy and student academic performance

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.831	.180		26.772	.000
	Free Secondary Education	0.745	.189	.577	3.934	.000

a.Dependent Variable: Student academic performance. Regression equation: $Y= B_0+ B_1X_1$

Table 11. Relationship between Free Secondary Education policy and Students Academic Performance in small schools

		Performance
Free Secondary Education	Pearson Correlation	.243
	Sig. (2-tailed)	.365
	N	16

Table 12. Regression analysis of Free Secondary Education policy and student academic performance in small schools

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.243[a]	.059	-.008	1.0525467

a.Predictors: (Constant), Free Secondary Education

Table 13. Relationship between Free Secondary Education policy and student academic performance in medium schools

		Performance
Free Secondary Education	Pearson Correlation	-.376
	Sig. (2-tailed)	.228
	N	12

Table 14. Regression analysis of Free Secondary Education policy on Student Academic Performance in medium schools

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.376[a]	.141	.055	.5803244

a. Predictors: (Constant), Free Secondary Education

Table 15. Relationship between Free Secondary Education Policy and Student Academic Performance in Large Schools

		Student AcademiPerformance
Free Secondary Education	Pearson Correlation	.947
	Sig. (2-tailed)	.015
	N	5

Table 12 shows that the impact of free secondary education policy on student academic performance in small schools was 0.059 as signified by R^2 =0.059. This means that Free Secondary Education funding did not have significant influence on performance in small schools. This means that the other factors were responsible for 94.1% of variation in student academic performance. There was no need to compute ANOVA to confirm whether Free Secondary Education was a significant predictor of student academic performance. Results in Table 13 shows that the relationship between Free Secondary Education policy and student academic performance in medium schools was negative, weak and not significant. (r=-.376; N=12; p>.05) This means Free Secondary Education policy had weak, negative impact on student academic performance, though not significant. To estimate the impact of Free Secondary Education policy on student academic performance in medium schools, coefficient of determination was computed.

Table 15 indicate that there was a strong positive relationship between Free Secondary Education funding and student academic performance. This relationship was significant (r =.947, N =5; p<.05). Since "N" was small, it was not necessary to undertake regression analysis. The overall relationship between Free Secondary Education policy and student academic performance was moderate, positive and significant. In this respect Free Secondary Education funds accounted for 31.2% of the effect on academic performance. This implied that other factors contributed up to 66.7% of variations in student academic performance besides Free Secondary Education funds. In small secondary schools, the total Free Secondary Education funds received for Kenya Certificate of Secondary Education candidates was Kshs. 11,322,295 against a performance score of 4.28. The study found no correlation between Free Secondary Education funding and student academic performance in small schools. Similarly, in medium schools there were non-significant and negative correlations

between Free Secondary Education funds and student academic performance. Despite medium schools receiving Kshs. 19,944,895 cumulatively for Kenya Certificate of Secondary Education candidates, the mean standard score was 4.875 while in large secondary schools, the total Free Secondary Education funds received for the candidates was Kshs. 22,726,710 cumulatively against a mean standard score of 6.445. In large schools, the correlation was high, positive and significant with a Pearson correlation co-efficient of 0.947.

DISCUSSION

Free Secondary Education policy influenced positively students academic performance in Mbita and Suba Sub-Counties. This level of correlation showed that increase in Free Secondary Education policy was associated with moderate academic performance in secondary schools. Availability of Free Secondary Education ensures that students in public schools do not pay Kenya Certificate of Secondary Education exams, which would imply that the overall costs are lowered. As opposed to private schools who have to meet those costs, in public schools the government provided Free Secondary Education funds to purchase and buy text books and other requirements of the public schools as outlined in the guides given in schools for the implementation (Osero, 2013). This finding confirmed results by Ngeno (2015) who established that the influence of Free Secondary Education policy on students' performance was moderate but positive with a coefficient of 0.69, that is, an increase of Free Secondary Education funding accounting for an increase in student academic performance but with moderate effect.

Rono and Onderi (2013) had demonstrated that parents' socio-economic status had influence on students' academic performance. About 36.8% of the respondents agreed that level of income of parents had influence on student academic performance and only 18.4% disagreed. Free Secondary Education funds have relived parents and children from poor households of the fee burden and they can now concentrate on studies hence this may have positive influence of academic performance. These findings did not concur with those of Ngeno (2015) who established that the influence of Free Secondary Education on student academic performance was moderate and positive with a coefficient of 0.69 in Kericho County and interview findings that Free Secondary Education moderately influenced academic performance. For instance the school auditor said; "The government should ensure that all schools should have equal distribution of the available school resources. There has been success stories after the introduction of Free Secondary Education, however there as still challenge to ensure quality education in the County. Besides Free Secondary Education, other contributing factors include teacher motivation and availability of infrastructure "

According to Sub-county Quality Assurance and Standard Officer's, influence of Free Secondary Education policy impacted positively in established schools. He further suggested that "the students should be merged to spread the distribution of resources to a larger group". According to one of the school principals Free Secondary Education has had a positive influence on academic performance. The Sub-county Quality Assurance and Standard Officers said, "Free Secondary Education" has helped improve on performance since students who are bright and poor can now stay in school besides the tuition materials can be brought thus improving performance". Another had this to say; "To a large extent the Free Secondary Education funds have improved the performance of students who know what brought them to school since it has minimized frequency of being sent home for fee" Others were negative on the possible influence and one had this to say "It has reduced the performance due to high student teacher ratio in so many schools"

Chugh (2016) argued that waiving of school fees does not enable a child to read, learn and become educated. There are other factors which influence student academic performance. The result concurred with principals' views. For instance one Sub-county Quality Assurance and Standard Officer had this to say; " Free Secondary Education" has helped improve on performance since students who are bright and poor can now stay in school. Besides the tuition materials can be bought thus improving performance" Another Sub-county Quality Assurance and Standard Officer said; "To a large extent the FS.E funds have improved the performance of students who know what brought them to school since it has minimized frequency of being sent home for fee" There were mixed responses by some of the principals who indicated that student academic performance had not improved much in Mbita and Suba Sub- Counties despite the introduction of Free Secondary Education policy because of the low student-teacher ratio in medium and low level schools. Teachers are a major input to performance and therefore few numbers of teachers coupled with lack of infrastructure is a big burden to these levels of schools. This is reflected in the opinion of some respondents. They said that the introduction of Free Secondary Education policy has enabled the bright but poor students to access education and complete their studies without frequent journey at home for fees. Absenteeism was reduced and learning materials are available in large schools in Mbita and Suba Sub- Counties.

The study showed that the influence of Free Secondary Education policy on student academic performance is varied in different regions and different categories of schools in Mbita and Suba Sub- Counties. The influence is greater in large schools. Consequently, these are the established schools that probably enjoy superior infrastructure, capable of assigning additional number of Board of Management teachers to cushion against teachers shortages and attract bright students who are academically focused. This view is confirmed by Munda et al (2010) who examined the relationship between selected educational facilities and student academic performance in secondary schools in Bungoma District, Kenya. They established that classrooms, laboratories made critical contributions to performance hence facilities in addition to teachers contributed positively to students' academic performance. Some of these schools which are in small and medium categories lack essential facilities but the suggestions to levy parents would overburden them and would be counterproductive in increasing access and transition. Such suggestions would be against the Basic Education Act (2013) which advocates for free and compulsory basic education. Following this foregoing argument, the government should expand the small and medium schools by merging them where necessary to make them economically viable. The frequent registration of schools in every village should be minimized to only economically viable schools to avoid wasting of students and resources. This finding is in contrast to findings by Ngeno (2015) who had shown that there was strong correlation between Free Secondary Education policy and academic

performance. Ngeno (2015) did not stratify schools based on their size, therefore the findings of this study is new as little is known in the influence of Free Secondary Education policy on academic performance in small schools. Previous studies have done general influence of Free Secondary Education policy on academic performance, however the finding of this study show that a small school with small funding many not benefit from improved academic performance at the current level of funding. There was a strong positive relationship between Free Secondary Education funding and student academic performance. This relationship was significant. These results were inconsistent with findings from Ngeno (2015) who established that there was moderate influence of Free Secondary Education policy on student academic performance in Kericho County. Large schools received more funds due to economy of scale compared to small and medium schools. Probably they were able to support expensive academic programs. Because of their financial capability they could be able to employ Board of Management teachers, construct adequate classrooms, laboratories, libraries and teachers' houses hence the improved performance. Since N- value was less than ten times the independent variable, regression analysis was not computed to estimate the actual influence. These results means that the influence observed in Table 4.40 was due to performance in large schools. This is true because the correlations for small and medium schools were weak and not significant.

According to Ministry of Education (2007), the aim of Free Secondary Education Policy was to make secondary education affordable. Free Secondary Education Policy attracted many students and thus influenced access. We established from the study that, Free Secondary Education Policy had significant influence on access in secondary schools education. This meant that as envisioned by the Task force on affordable secondary school education, the subsidy has worked wonders for access to secondary schools education sub- sector. Subsequently, Free Secondary Education Policy has positively and significantly influenced primary to secondary schools transition. However, the study established that the objective of Free Secondary Education Policy to improve quality, that is, student academic performance was moderate. Search for quality and efficient education system is a concern for every government and education stakeholders. Coombs (1968) said that, quality of education is that education being offered that fits the real needs and values currently and prospectively of a given country. In Kenya, education stakeholders have been asking these questions "Does waving of fees and introduction of Free Secondary Education Policy enables a child to read, learn, solve arithmetic efficiently and become educated?" Analysis of the influence of Free Secondary Education Policy on student performance in small and medium schools indicated a contrary result. That is, Free Secondary Education Policy did not have an influence on student academic performance in small and medium schools. The relationship was only significant in large schools. This gives an insight that, student academic performance is not pegged on disbursement of Free Secondary Education funds alone, but there could be other factors influencing student academic performance hence the quality of education. Munda (2010) established that, other factors like availability of classrooms, laboratories in addition to teachers contribute positively to student academic performance. This confirms our findings that Free Secondary Education Policy alone does not influence student academic performance.

In order for effective learning to take place, there is need for: adequate space for the learners in a classroom, furniture, teaching aids, and learning materials. However, this has not been the case since the introduction of Free Secondary Education Policy. Chabari (2010) reported that, since the introduction of Free Secondary Education Policy, the average number of students in schools increased thus leading to overcrowded classrooms. Further, there was the challenge of inadequate funds which were never released on time. Overcrowded classrooms could militate against good performance in Kenya Certificate of Secondary Education. In congested rooms teachers lacked control of the class which is required for effective learning, time to mark and correct assignments given to students or even make a follow up upon individual students who might require individual attention by the teacher. This might affect learning. According to Ministry of Education guidelines, the recommended class size is between 10- 45 students. In cases where there are more than 50 students in a class, the management and teaching becomes a serious challenge.

Rono and Onderi (2013) demonstrated that parents' socio-economic status, teacher motivation, competence and commitment, student discipline motivation and commitment influence performance. These are facts which are not related to Free Secondary Education Policy. Lazy, weak, indisciplined and unconcerned students whether they receive 100% Free Secondary Education funding cannot perform well in any examination a fact which has been reflected in our studies. Small and medium schools are mostly new schools which were recently registered, hence lack academic culture of good performance reflected in top established schools in Kenya. Small and medium schools occasionally are characterized by: indiscipline, truancy by students, some of them also lack laboratories necessary for science practicals and libraries required for reading and making references. Most likely, that is the reason why in our study, influence of Free Secondary Education Policy was not significant in small and medium schools but was significant in large schools.

Ongeri and Abdi, (2004), cited in Rono, Onderi and Awino (2013) reported that, many of the Kenya's 4,000 secondary schools had bad examination results and that they are about 600 schools that excel, and if a student is not in any of these schools, he or she is not expected to get a credible grade. Probably, these are the schools that have not developed academic culture for excellence. Glennerster (2011) observed that overall student performance in Kenya Certificate of Secondary Education was poor, only 25% of the students scored at least a C+, the performance was weakest in district schools, where only 11% of the students scored at least a C+, compared to 43% in Provincial schools and 90% in National schools. Glennerster (2011) further observed that, the differences in performance reflected differences in facilities, adequacy of teachers and other resources but also reflected the different levels of academic preparation of the students admitted to these schools. The small schools in our study and medium schools fall under the district and provincial schools mentioned by Glennerster confirming that they have not developed excellent academic culture required for good performance in Kenya Certificate of Secondary Education. A fact confirmed by Amunga (2010) who observed that, schools are ranked in national examinations in Kenya according to performance index. According to Amunga, this implied that, the higher the mean score, the better the rank. This in turn

influenced the demand of places in certain schools while at the same time, reducing the demand in others. Thus, in our study, the large schools which are more established attract better performing students and further increasing demand for those schools. Probably this is the reason why student academic performance was significant in these large schools. Ministry of Education (2012) observed that there is severe shortage of teachers, or understaffing which combined with inadequate learning materials, led to poor quality. At the same time, there is inadequate Quality Assurance Services. According to Ministry of Education (2012) the drop in quality of education is due to: understaffing, inadequate learning materials and crowded classrooms. As these factors persist, the quality of education continues to suffer with the consequences hence the need to address these issues in small and medium schools for effective and efficient quality education funded by Free Secondary Education Policy in Kenya.

Conclusion

The Free Secondary Education subsidy in small secondary schools had a weak, positive and not significant influence on students' academic performance. The Free Secondary Education subsidy had a moderate positive and not significant influence on students' academic performance. The Free Secondary Education subsidy had a strong positive and significant influence on students' academic performance. This was largely due to economies of scale.

Recommendations

- With regard to student academic performance Free Secondary Education funds should be increased in small and medium schools so that a significant influence can be realized.
- In large schools the subsidy should be maintained or improved so as to improve students' academic performance.

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