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COMPARISON OF KENYA CERTIFICATE OF SECONDARY EDUCATION (KCSE) AND MOCK EXAMINATIONS' MEAN SCORES BETWEEN SECONDARY SCHOOL STUDENTS FROM PUBLIC AND PRIVATE PRIMARY SCHOOLS FOR THE YEAR 2004 AND 2005

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Abstract

Private schools supplement the government's efforts of providing education in Kenya. Pupils from private primary schools have been out-performing those from public primary schools at Kenya Certificate of Primary Education (KCPE). However, it has not been clear whether the same trend continues when the same students enter secondary school education. The purpose of this study was to compare KCSE and Mock Examinations' Mean Scores between Secondary School Students from Public and Private Primary Schools in the year 2004 and 2005. The comparison sought to establish whether there is a statistically significant difference in the mean scores in KCSE for the year 2004 and year 2005 form four students in provincial schools in Nakuru District. The population of the study comprised 2004 and 2005 form four students in Nakuru District. Stratified random sampling technique was used to select a sample of 240 students from 6 provincial schools out of the 19 provincial schools in Nakuru District. The six schools were randomly selected from the three categories of secondary schools; Boys only, Girls only and Co-educational (Mixed). The instrument used to collect data was the Students' Academic Performance Summary Form 1 (SAPSF1) and Students' Academic Performance Summary Form 2 (SAPSF2). Data analyses were done by both descriptive and inferential statistics. Descriptive statistics involved means and standard deviation while inferential statistics involved t-test. The test of significance was done at $\alpha = 0.05$. The study found out that in KCSE, students from public primary schools had higher mean scores than those from private primary schools and the means were statistically significant.

Keywords: Kenya Certificate of Primary Education (KCPE), Kenya Certificate of Secondary Education (KCSE), Private Schools, Public Schools, Mean Score

1.Introduction

Private schools, also known as independent schools or non-state schools (Zaidi, 2011) are not administered by local, state or national governments. Thus, they retain the right to select their students and are funded in whole or in part by charging their students tuition, rather than relying on mandatory taxation through public (government) funding. At some private schools students may be able to get a scholarship, which makes the cost cheaper, depending on a talent the student may have e.g. sport scholarship, art scholarship, academic scholarship etc. Private schools are typically more expensive than their public counterparts in many parts of the world Kenya included.

Like in many countries of the world, for many years, private schools in Kenya have complemented the government's efforts of providing education in Kenya (Siringi, 2003). Besides, they also increase competition for students and raise the quality of education offered (Waihenya, 2000). The government's policy is to encourage the private sector to invest in education in order to ease pressure on public schools. Although there were fewer private schools before the 1990s whose aim was to genuinely fill up the gap left by public schools, there has been a proliferation of private primary schools in Kenya between 1998 and 2005.

Such schools have sprung up in nearly every neighbourhood with some being established within residential houses (Aduda, 2001).

There are many reasons behind this proliferation but the major ones are; firstly the introduction of Cost Sharing Policy in 1998 as part of Structural Adjustment program, which resulted in poor delivery of educational services because most parents were unable to adequately provide for the necessary physical facilities and instructional materials (MOEST, 2003). Secondly, according to the same source, the suspension of the recruitment and employment of teachers in 1998 compounded the problem of provision of quality education to all in Kenya. Private schools thus started with the aim of attracting the economically able parents, who were dissatisfied with educational services offered by public primary schools.

In many parts of the world elitism in the context of private schooling is generally understood to mean financial elitism Barnett, (2000). That is, the perception that private schools only accept students from wealthy families. Census data from the Australian Bureau of Statistics prove this not to be the case. In 1996, for the first time, the Census asked people with school-age children in which school sector their child was enrolled. More than 30% of students in private schools are from families with an income of less than \$41,600 per annum. This is almost the same proportion as students from families with incomes of \$62,400 or more per annum. The other 40% of students lie between these two income brackets. Also important is the fact that 17% of students in public schools are from households with incomes of \$62,400 or more. Therefore, the generalization that private school students have rich parents and public school students have poor parents is untrue. Although the balance is toward higher income families in private schools, both public and private schools have significant proportions of students across the full range of family income levels in Australia. Surveys of parents of children in independent private schools have indicated that these families often take on a second job primarily to cover school fees and expenses.

The scenario above is similar in Kenyan primary schools. Parents work extra hard to take their children to private primary schools to give them quality education. Abagi (1997) found that households spent Ksh 43,950, 4,620, and 81,000 annually on one child enrolled in urban, rural, and private primary schools respectively. There are hardly any private secondary schools with similar educational standards to National and provincial schools (Onyango, 2003). Consequently, a large number of students from private primary schools who perform well in KCPE examination end up being admitted to National and Provincial secondary schools which are public schools. This has resulted in more students from private primary schools being admitted into National and Provincial secondary schools which are public schools, compared to students from public primary schools (MOEST, 2001).

Private schools in Australia like many countries of the world may be favoured for many reasons: prestige and the social status of the 'old school tie'; better quality physical infrastructure and more facilities (e.g. playing fields, swimming pools, etc.), higher-paid teachers; and/or the belief that private schools offer a higher quality of education. Some schools offer the removal of the purported distractions of co-education; the presence of boarding facilities; or stricter discipline based on their power of expulsion, a tool not readily available to government schools.

In many countries of the world, private schools perform better in national examination due to a number of reasons. Low pupil-to-teacher ratio is one of the principal reason many parents opt

for independent schools rather than local state alternatives. Smaller class sizes allow greater one-to-one attention and make for better public examination results.

This study was formulated to compare public secondary school academic performance of student from private and public primary schools in Kenya in both Kenya National Examination Education (KCSE) exam and a teacher made standardized examination popularly known as MOCK that is done a few months before the national examination (KCSE).

II. Objectives

To compare Kenya Certificate of Secondary Education (KCSE) examination mean scores between secondary school students from public and private primary schools for the year 2004 and 2005.

- i. To compare year 2004 Kenya Certificate of Secondary Education (KCSE) examination mean scores between secondary school students from public and private primary schools for the year.
- ii. To compare year 2004 MOCK mean scores between secondary school students from public and private primary schools for the year.
- iii. To compare year 2005 Kenya Certificate of Secondary Education (KCSE) examination mean scores between secondary school students from public and private primary schools.
- iv. To compare year 2004 MOCK mean scores between secondary school students from public and private primary schools for the year.

III. Hypotheses

- i. There is no statistically significant difference in the year 2004 KCSE academic performance between students from private primary schools and those from public primary schools.
- ii. There is no statistically significant difference in the year 2004 MOCK academic performance between students from private primary schools and those from public primary schools
- iii. There is no statistically significant difference in year 2005 KCSE academic performance between students from private primary schools and those from public primary schools.
- iv. There is no statistically significant difference in year 2005 MOCK academic performance between students from private primary schools and those from public primary schools

IV. Literature Review

One of the major goal of Kenyan education is to promote individual development and self-fulfillment. With this being well stipulated the many government's policies devised to meet this goal attempt to ensure that both on-human and human resources are allocated equitably across schools public schools. However it is the responsibility of the owners of private schools to ensure that this important human and non-human resources are available in their schools.

Academic performance, which is measured by the examination results, is one of the major goals of a school. Hoyle (1986) argued that schools are established with the aim of imparting knowledge and skills to those who go through them and behind all this is the idea of enhancing good academic performance. Performance in academic is affected by a number of factors including admission points, social economic status and school background. Geiser and Santelices (2007), Acato (2006), and Swart (1999) all argue that admission points which are a reflection of the previous performance influence future academic performance. Sentamu (2003),

Kwesiga (2002) and Portes and Macleod (1996) as cited in Considine and Zappala (2002) all argue that the type of school a child attends influences academic achievement.

According to Considine and Zappala (2002) the type of school a child attends influences educational outcomes. Considine and Zappala (2002) cite Sparkles (1999) whose study in Britain shows that schools have an independent effect on student attainment and that school effect is likely to operate through variation in quality and attitudes, so teachers in disadvantaged schools often hold low expectations of their students which compound the low expectations the students have, hence leading to poor performance by the students. Kwesiga (2002) agrees that school has an effect on the academic performance of students but argued that school facilities determine the quality of the school, which in turn influences the achievements, and attainment of its pupils. Sentamu (2003) argues that schools influence learning in the way content is organized and in the teaching, learning and assessment procedures. All these scholars agree in principle that schools do affect academic performance of students.

However, Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, et al., (1966) were the first to study the association between school Teachers College Record Volume 108, Number 12, December 2006, pp. 2550–2581 Copyright by Teachers College, Columbia University 0161-4681 inputs and student achievement using national probability samples of elementary and secondary students. In their pioneering work, Coleman et al. estimated education production functions in order to quantify the association between students' academic performance in standardized tests and school and family input measures. One of the key findings of the Coleman report was that when the socioeconomic background of the students was held fixed, the differences among schools accounted “for only a small fraction of differences in pupil achievement” (Coleman et al., p. 21). In other words, variations in school characteristics were not closely associated with, and had hardly any effect on, variations in student achievement. The Coleman report generated a series of studies that were conducted to further assess the effects of school resources on academic achievement. It is noteworthy that for the last three decades, there have been disagreements among educational researchers, practitioners, and policymakers about the relative impact-importance of school characteristics on students' academic achievement. The findings of numerous studies are mixed and inconclusive. Some researchers have concluded that there is little or no evidence of a relationship between school factors and student achievement (Hanushek, 1986; 1989), whereas others reported that the impact of school factors on test scores may be substantial (Greenwald, Hedges, & Laine, 1996).

Some researchers have held the view that school ownership and funding does indeed have an effect on performance of the student. Crosne, Johnson and Elder (2004) found that school ownership (that is schools owned by private individuals and those owned by the government) is an important structural component of the school. Private schools, they argue, tend to have both better funding and small sizes than public schools. They found that additional funding of private schools leads to better academic performance and more access to resources such as computers, which have been shown to enhance academic achievement. Sampson (2004) also noted that private schools have alternate sources of funding, higher level of discipline, and are very selective and this is why they tend to have higher academic performance than students from public schools. Considine and Zappala (2002) concluded in their study on school background that students from independent private schools were more likely to achieve higher end of school scores. Crosne, Johnson and Elder (2004), Sampson (2004) and Considine and Zappala (2002) share a similar view and that is; private schools are more likely to have a greater number of students from high SES families, select students with stronger abilities and have greater financial

resources. In their conclusions, they maintained that the type of school affects the academic performance of students.

V. Methodology

Causal-comparative research design was adopted for this study. It looked back 'after the fact' to relate the dependent variable to the independent variable (Coolcan, 1994). The design used a naturally occurring treatment or used subjects having a self-selected level of the independent variable. The population of the study comprised 2004 and 2005 form four students in Nakuru District. Stratified random sampling technique was used to select a sample of 240 students from 6 provincial schools out of the 19 provincial schools in Nakuru District. The six schools were randomly selected from the three categories of secondary schools; Boys only, Girls only and co-educational (Mixed). The instrument used to collect data was the Students' Academic Performance Summary Form 1 (SAPSF1) and Students' Academic Performance Summary Form 2 (SAPSF2). Data analyses were done by both descriptive and inferential statistics. Descriptive statistics involved means and standard deviation while inferential statistics involved t-test. The test of significance was done at $\alpha = 0.05$.

Much as it is normal for students in an educational institution to perform well and others poorly, even after receiving the same services, this study investigated whether there is a statistically significant difference in KCSE and MOCK examinations mean scores of public secondary school students with public and private primary school background for the year 2004 and 2005.

VI. Findings and Discussions

KCSE mean scores of students with public and private primary school background were analysed and then compared to determine whether there was a significant difference between them. Results from analysis of independent sample t-test computed for KCSE and MOCK examination mean scores for students of public primary schools and those of private primary schools are shown in table 1- 4.

Comparison of Form Four Mock Examination Mean Scores between Secondary School Students from Public and Private Primary Schools for the 2004 and 2005 Classes

Form Four Mock Mean scores of students with public and private primary school background were analysed and then compared to determine whether there was significant difference between them. Results from analysis of independent sample t-test computed for Form Four Mock examination mean scores for students of public primary schools and those of private primary schools are shown in table 1 and 2.

Table 1 shows t-test comparison of Form 4 KCSE mean scores of students from private and public primary schools year 2004 form four students.

Table 1: Independent Samples t-Test and their KCSE Mean Scores, 2004 Class

Primary school	N	Mean	SD	Df	t-value	p-value
Private	61	7.34	2.11	118	3.456	0.001

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Public	59	8.66	2.11
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Source: Field data (2006)

The results of the analysis showed that there was statistically significant difference between KCSE examination mean scores between students with private primary school background and those with public primary school background. This is because the $t(118) = 3.456$, $p < 0.05$ therefore, the null hypothesis which stated that there is no statistically significant difference in KCSE academic performance between students from private primary schools and those from public primary schools is rejected. There is a statistically significant difference in KCSE examination mean scores. Students from public primary schools got a higher mean score than from private primary schools.

Table 2 shows t-test comparison of Form 4 KCSE mean scores of students from private and public primary schools year 2005 form four students.

Table 2: Independent Samples t-Test and their KCSE Mean Scores, 2005 Class

Primary school	N	Mean	SD	Df	t-value	p-value
Private	60	6.68	2.11	11	2.15	0.020
Public	60	7.87	2.35			

Source: Field data (2006)

The results of the analysis showed that there was statistically significant difference in KCSE examination mean scores between the students with private primary school background and those with public primary school background. Students with public primary school background got higher mean scores in KCSE than those from private primary schools, $t(118) = 2.15$ $P < 0.05$ so the null hypothesis which stated that there is no statistically significant difference in KCSE academic performance between students from private primary schools and those from public primary schools is rejected.

Comparison of Form Four Mock Examination Mean Scores between Secondary School Students from Public and Private Primary Schools for the 2004 and 2005 Classes

Form Four Mock Mean scores of students with public and private primary school background were analysed and then compared to determine whether there was significant difference between them. Results from analysis of independent sample t-test computed for Form Four Mock examination mean scores for students of public primary schools and those of private primary schools are shown in table 3 and 4.

Table 3 shows t-test comparison of Form 4 MOCK mean scores of students from private and public primary schools year 2004 form four students.

Table 3: Independent Samples t-Test and their Form 4 Mock Mean Scores, 2004 Class

Primary school	N	Mean	SD	Df	t-value	p-value
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Private	61	6.21	1.83	118	2.69	0.008
Public	59	7.18	2.13			

Source: Field data (2006)

The results of the analysis showed that there was a statistically significant difference between Mock examination mean scores between students with private primary school background and those with public primary school background. Students from private primary schools performed poorly in Form 4 Mock than those from public primary schools, $t(118) = 2.69$, $p < 0.05$. Therefore, the null hypothesis which stated that there were no statistically significant difference in MOCK academic performance between students from private primary schools and those from public primary schools was rejected.

Table 4 shows t-test comparison of Form 4 Mock mean scores of students from private and public primary schools year 2005 form four students.

Table 4: Independent Sample t-Test and their Form 4 Mock mean scores, 2005 Class

Primary school	N	Mean	SD	Df	t-value	p-value
Private	60		6.48	2.06	118	2.99
Public	60		7.67	2.27		0.003

Source: Field data (2006)

The results of the analysis showed that there was statistically significant difference in Mock examination mean scores between the students with private primary school background and those with public primary school background. Students with public primary school background got higher mean scores than those from private primary schools. $t(118) = 2.99$, $p < 0.05$ so the null hypothesis which stated that there were no statistically significant difference in Mock academic performance between students from private primary schools and those from public primary schools was rejected.

This study found out those secondary schools students from public primary schools performed better than those from private primary schools. It can also be generalized with caution that in Kenya secondary school students with public primary school background perform better in public provincial secondary schools than those with private primary school background. This is despite the fact that private primary schools outperform public primary schools in KCPE. Results from KCPE examination in recent years showed that pupils from private primary schools have been doing better than those from public primary schools (Aduda, 2001; Njeru, 2001; Kamau, 2003).

In addition, the findings of the current study are in agreement with a longitudinal study done by the Inspectorate Division of the MOEST that studied the top twenty performers KCPE examination that sat either KCPE examination after 1989 by following them through secondary school to the University. The study found out that most students from private primary schools did not do as well in KCSE as in KCPE examination (MOEST, 2003).

However, findings of this study are not in agreement with a number of comparative studies done between students in public and private schools in other countries. A study in the United States of America (USA) found out that first Year University students from private schools scored higher in all subjects than those from public schools when average test scores were

compared (Sadovnic et al., 1994). In Britain, Sullivan and Health (2002) found that private schools regularly top the “league tables” of educational success in public examination for General Certificate of Secondary Education (GCSE), which most pupils take at the end of compulsory schooling at age sixteen. This means school characteristics is an important factor in predicting student achievement and explaining variation in achievement. This disagreement meant that there could be factors present in our public secondary schools that affected students from private primary schools more than students from public primary schools. Such factors could be class size and school structures among others. This should be investigated.

There is some evidence, however, that class size has a significant effect on student achievement and student dropout rates (Nye, Hedges, & Konstantopoulos, 2000; Rumberger & Thomas, 2000). For example, a recent study on allocation of education resources such as class size demonstrated a positive relationship between small classes and academic achievement (Nye et al.). In addition, pupil-teacher ratio, a proxy of class size, has been an important factor of successful preschool and school programs (Zigler & Styfco, 1994).

Gage and Berliner (1988), indicate that test scores at any one age above five years have been found to be a very good basis for predicting a score at a later age. This would mean that secondary school students from private primary schools were expected to have higher mean scores in KCSE than those from public primary schools but however this was not the case.

VII. Conclusion

Unlike in many countries of the world where students from private schools scored higher in all subjects than those from public schools when average test scores were compared, in Kenya the scenario is different. According to this study, students from public primary schools performed better than those from private primary schools in public secondary schools. This would mean that probably there is something that happens in private primary schools in Kenya that impacts negatively on their student’s performance in secondary schools. It could also be possible that there is something in Kenyan public secondary schools that impacts negatively on students from private primary schools. Factors such as school environment, teaching methods, facilities, teacher’s commitment and many others could be contributing to these findings.

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