

**AN ANALYSIS OF THE RELATIONSHIP BETWEEN EXAMINATION PERFORMANCE,
TEACHER QUALIFICATION AND THE AMOUNT OF FEES PAID IN SELECTED
SECONDARY SCHOOLS IN NAIROBI**

By
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**A Management Research Project Submitted in Partial Fulfilment of the Requirements for the
Award of Master of Business Administration Degree, School of Business, University of Nairobi**

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DECLARATION

Declaration by the student

This management project is my original work and has not been presented for a degree in any other university.

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Declaration by the University Lecturer

This project has been submitted for examination with my approval as university supervisor.

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Special thanks to my supervisor Dr. Gituro Wainaina, who patiently guided me through this research. His tireless effort and valuable time has culminated in the realization and successful completion of this study.

Special thanks also to the staff in the Ministry of Education, Teachers Service Commission (TSC) and the various public and private secondary schools for their support and assistance.

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DEDICATION

To my family and friends for your understanding

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ABSTRACT

The ever-growing demand for education, the resultant expansion of education systems, rising costs in education because of inflation and the need for more and more sophisticated (and thus more expensive) equipment, have all led to increases in spending on education all over the world. There is enormous expenditure by parents on the education of their children right from primary level to secondary and finally to colleges and universities. Education significantly increases an individual earning power and thus education is considered as an avenue of moving out of poverty. Education also plays a crucial role in economic development of any country. There is high expenditure by parents on the education of their children right from primary level to secondary and finally to colleges and university. Hence, the whole question of the benefits accruing from such investments as education comes in mind of many parents when choosing the school to take their sons and daughters.

This was a descriptive survey, which was designed with the objective of determining whether teacher qualification and fees paid influenced performance in secondary schools. The second objective was to determine whether there is a significant difference between fees paid in public and private secondary schools and the third objective was to determine whether there is a significant difference between performance in public and private secondary schools.

The sample for this study was drawn from the eight administrative districts of the Nairobi Province. Purposive sampling was used to select the sample. Data was collected using secondary data from the Provincial Director of Education's Office, the Ministry of Education and the Teachers Service Commission. The Statistical Package for Social Sciences (SPSS) and spreadsheets were used to analyse data. Specifically, correlations, tests of significance and graphical analyses were used to analyse the data.

The findings revealed that there is no significant difference between fees paid in private and public secondary schools contrary to popular belief. Teacher qualification was found to influence performance but fees paid was only found to influence performance in public secondary schools and not in private secondary schools. Public schools were also found to perform better than private secondary schools. The differences in performance of private and public secondary

schools were also found to be statistically significant. These results have important implications for schools and the policy makers in the education sector.

CHAPTER ONE INTRODUCTION

1.1 Background

The ever-growing demand for education, the resultant expansion of education systems, rising costs in education because of inflation and the need for more and more sophisticated (and thus more expensive) equipment, have all led to increases in spending on education all over the world. There is enormous expenditure by households on the education of their children right from primary level to secondary and finally to colleges and universities. Recognizing that that resources used for investment cannot be used for another, then if families invest their resources in education they cannot, for example, invest it in developing their land, plots and herds, and other personal development. In such a scenario, the whole question of the benefits accruing from such investments as education comes into mind of many households when choosing the school to take their children. Should the households therefore pay higher fees for their children to do well in their national examinations and forfeit other forms of investments?

Education significantly increases an individual's earning power and thus education is considered as an avenue of moving out of poverty. Education also plays a crucial role in economic development of any country. The Kenya Government realizes this fact and has consistently continued to support the education since independence. At independence, Kenya adopted a philosophy of education that would best serve a country united in national purpose. It was felt that in addition to importing market skills to the labour force, a national education system should always aim at removing social injustices and disparities, and values of society. Consistent with this role of education, a key political conviction of the Government is that every Kenyan has an inalienable right to basic education (Government of Kenya, 1988, 2001).

Education is generally accepted as a means that plays a major role in assisting a country to achieve its declared national objectives and goals. It is therefore important that such national goals and objectives be clearly stated and understood by the people as a whole and the education system in particular if they are to be translated into reality. In Kenya, these objectives and goals are contained in various policy documents such as the Sessional Paper No. 10 of 1965 on Africa socialism and its application of planning in Kenya and the development plans as well as in Kenya African National Union (KANU) manifesto.

The Government has formulated and implemented various educational reforms, policies and programmes since independence to realize educational goals and objectives. The Government in collaboration with other stakeholders have committed substantial amount of resources to the education sector. Some of the key policy reforms undertaken by the Government in education sector include the abolition of school fees in 1974 and 1979 and the introduction of Free Primary Education (FPE) in 2003. The result of this substantial investment and reforms in education has led to tremendous growth of the sector both in qualitative and quantitative terms since independence. The number of schools and school enrolment has increased over the years. For example, pupil enrolment in public primary schools increased from 891,553 in 1963 to 7,652,500 in 2006. Student enrolment in secondary schools increased from 31,120 in 1963 to 1,030,080 in 2006. The introduction of FPE in 2003 was aimed at achieving the Government goals of Universal Primary Education (UPE). As shown in Table 1 below, the Gross Enrollment Rate (GER) especially at primary level has increased since 2003.

Table 1 Gross Enrollment Rates at Public Primary and Public Secondary: 1990 - 2006

Year	Primary			Secondary		
	Boys	Girls	Total	Boys	Girls	Total
1990	104.0	99.6	101.8	33.6	25.2	29.4
1991	93.4	89.5	91.5	29.9	23.2	26.6
1992	92.0	90.0	91.0	28.9	22.6	25.8
1993	88.9	86.7	87.8	22.9	18.4	20.7
1994	89.1	87.8	88.5	24.8	21.0	22.9
1995	87.4	86.3	86.9	24.0	20.5	22.3
1996	87.3	85.5	86.4	24.2	21.1	22.7
1997	88.7	86.6	87.7	24.5	21.9	23.2
1998	89.3	88.2	88.8	24.6	21.7	23.2
1999	92.6	89.7	91.2	21.8	21.6	21.7
2000	89.0	88.4	88.7	26.8	23.6	25.2
2001	88.0	87.3	87.7	27.1	24.2	25.7
2002	88.9	87.5	88.2	27.2	24.2	25.7
2003	105.0	100.5	102.8	29.7	27.4	28.6
2004	108.0	101.6	104.8	31.7	27.3	29.5
2005	109.9	104.4	107.2	31.3	29.1	30.2
2006	110.2	104.6	107.4	34.8	30.0	32.4

Source: Statistics Section - Ministry of Education

Table 2 below shows the number of pupils who completed primary schools by sex from 2000 to 2006. It is clear from the Table 2 that the number of those completing primary school has been rising over the years. In terms of percentages, less than 50 percent of those who enroll in primary complete the primary cycle despite the fact that the figure has been rising.

Table 2 Primary School Completion by Sex (Thousands) from 2000 to 2006

Year	2000	2001	2002	2003	2004	2005	2006
Boys	235.6	261.7	290.3	282.4	334.0	342.1	333.5
Girls	227.8	246.6	244.5	269.1	309.1	309.6	302.2
Total	463.4	508.3	534.8	551.5	641.1	651.7	635.8

Source: Statistics Section – Ministry of Education

Table 3 below shows analysis of a cohort of both boys and girls who enrolled in standard one in 1987 and those who managed to survive to the university. Table 3 shows a glaring inefficiency of the education system as only 1.6 percent boys and 0.7 percent girls survived to join university, representing only 1.2% of the 918,300 boys and girls who joined standard one in 1987. The survival rate from standard one to form one is 19.6 percent with 20.3 percent for boys and 18.9 percent for girls. In addition, only 16.6 percent of pupils who enter standard one survive to reach form four, where 17.4 percent of them are boy and 15.7 percent are girls (Economic Survey, 2007).

However, the curriculum offered allows those who terminate at any levels to either be self employed or join other middle level colleges and technical training institutions, which are poorly maintained (or lack basic training infrastructures).

These enrolment rates and survival rates indicate a lot of inefficiencies and wastage in the education system, thus the question whether it is worth investing in education by the household. Thus, the motivation of this study is to compare the fees paid, teacher qualification and the performance of the student. Is it possible to take children to schools, which charges cheaper but children perform well and then invest the rest of the resources in land, plots, and other personal developments?

Table 3 Survival Levels of Pupils by Cohort from Primary School to University Level

Level	Boys	Girls	Total	Percent of Girls
Enrolment in Std 1, 1987	476,000	442,300	918,300	48.2
Enrolment in Std 8, 1994	212,500	190,300	402,800	47.2
Enrolment in Form 1, 1995	96,400	83,600	180,000	46.4
Enrolment in Form 4, 1998	82,600	69,500	152,100	45.7
Enrolment in 1 st year University 1999/2000	7,453	3,194	10,647	30.0
Survival (completion) rate from Std 1 to Std 8	44.6	43.0	43.9	-
Survival (Transition) rate from Std 8 to form 1	45.4	43.9	44.7	-
Survival rate from Std 1 to secondary level Form 1	20.3	18.9	19.6	-
Survival (Completion) rate from form 1 to form 4	85.7	83.1	84.5	-
Survival rate from Std 1 to form 4	17.4	15.7	16.6	-
Survival rate from Std 1 to university level	1.6	0.7	1.2	-

Source: Source: Statistics Section Ministry of Education

In the last two decades, the Government expenditure on education has been rising at a higher rate than the rate at which the economy has been growing. This has understandably made the Government to limit its financial allocation to education as a whole to 30 percent or below of the total Government recurrent expenditure, which exclude defense and debt servicing. It has been argued and generally accepted that allocation to education of higher percentages than 30 percent may be detrimental to the country's overall economic development and such a situation would indeed be undesirable. The Government has decided to limit growth of expenditure on education to the rate of growth of the Government revenue, consequently overburdening the parents in increased school fees and other school levies.

In an attempt to reduce the education expenditure, it is important to note the non-discretionary aspect of the expenditure. For instance, the country has already accepted to provide free education to all primary school age children. Since the population of these children continuous to grow, progressively more children will need to be educated leading to greater demand for post-primary education. This growth at the two levels will inevitably create demand for more qualified teachers. The non-discretionary salary bill will therefore continue to rise

proportionately. Further, like other services, education is affected by the general rise in the cost of living.

The main source of finance for secondary education is Government and households (through school fees and other levies) and private contributions as well as external aid (either from international organizations and Non Governmental Organisations (NGOs)). Education at this level is provided for the children aged between 14 and 19 years. Through the Government, the cost of the secondary schools bursary scheme is about KShs 800 million per year (Economic Survey, 2004). However, this allocation is not enough. There is need therefore for extra funds and improvement on policy/criteria to achieve the intended impact.

1.2 Statement of the Problem

According to the United Nations International Children's Education Fund (UNICEF, 2006) report about Kenya, it was estimated that approximately 1.5 million primary school going children were out of school for various reasons. The UNICEF report highlighted the major causes of this phenomenon as the high cost of education in a declining economy, poor health and nutritional status, and the effects of HIV/AIDS.

At the beginning of the year 2001, secondary school fees went up by 24 percent (Daily Nation, 2001). A circular to schools by the Ministry of Education indicates that national schools should charge a maximum of KShs 26,900 up from KShs 22,500, provincial boarding schools KShs 20,900 up from KShs 17,250 while day schools were to pay KShs 8,500 up from KShs 6,850. This has always remained in policy papers as school heads and Board of Governors (BOG) continue to charge higher fees.

There is high expenditure by households on the education of their children right from primary level to secondary and finally to colleges and university. Hence, the whole question of the benefits accruing from such investments as education comes in mind of many parents when choosing the school to take their children. As Table 3 shows only 1.6 percent of students who join standard one enter university. Joining university is seen as an opportunity for good jobs.

Households are interested with schools where they know their children can join university. Since 46 percent of Kenyans live below the poverty line, any investment must be justified.

1.3 Objectives of the Study

The general objective of this study was to determine whether academic performance is as a result of fees paid and teacher qualifications in both private and public secondary schools in Eastlands, in Nairobi. The specific objectives of the study were to:

1. Determine whether fees and teacher qualifications influences performance at the school level.
2. Determine whether there is any significant difference between fees paid in both public and private secondary schools.
3. Determine whether there is any significant difference between performance in private and public secondary schools.

1.4 Methodology

To determine whether fees and teacher qualification influence performance at the school level, secondary data was collected on fees paid in selected private and public secondary schools in Nairobi. Data on qualification of secondary school teachers in Nairobi was also be collected. Then, data on performance of the schools was collected for the period 2002 to 2006. Correlation analysis was done to determine if there was relationship between fees paid and performance and between teacher qualification and performance.

To determine whether there were significant differences between fees paid in both public and private secondary schools, secondary data was collected on the fees structures for secondary schools in Nairobi. Then, correlation analysis was done to determine if there were significance differences in fees paid.

For the third objective of determining whether there was significant difference in performance between private and public secondary schools, secondary data on examination performance was collected and correlation analysis done to determine if the differences in performance were significant.

1.5 Importance of the Study

This study will be important to:

1. Household who will be able to decide which secondary school to take their children as well as understand the benefits accruing from investing in education.
2. Education policy makers who will be able to decide and review the secondary school fees structure for various school categories
3. Researchers and academics who may wish to further investigate other factors affecting secondary education performance.

CHAPTER TWO LITERATURE REVIEW

2.1 Introduction

This chapter examines the literature on the issues surrounding teacher qualification, fees and performance. The issues are discussed as follows: first, secondary education is discussed in general; then issues about financing education are discussed followed by monitoring, assessment and evaluation of education in Kenya. Lastly, the relationship between teacher qualification and academic performance is discussed.

2.2 Secondary Education in Kenya

Secondary education is the third level in the mainstream education system after Early Childhood Development and Education (ECDE) and primary levels. It caters for primary school leavers in the 14-17 years age group. Performance in the Kenya Certificate of Secondary Education (KCSE) examination, which marks the termination of the 4-year secondary course, is used for selection into university and training in middle level colleges and professions such as primary teaching and vocational and technical jobs. Equally important, secondary education plays an important role in creating the country's human resource base at a level higher than primary education.

Since independence secondary education has expanded considerably. However, access remains low with about 60 percent of the pupils who completed primary school in 2006 being selected for entry into secondary school. This low access raises a number of interrelated issues. First, as education is regarded as the gateway to high status and well-paid jobs, Kenya communities are characterized by social demand for more openings in secondary schools. Second, at 14, the primary school learning age may be regarded as too low for entry into jobs, which require full maturity. It is instructive to note that Kenya law classifies adolescents under the age of 16 years as minors. In advocating for at least 15 years of the age of entry into the labour force, a recent international report argues the "single most effective way to protect children from hazards and exploitive labour is to extend and improve education (UNICEF, 1997:4)

Third perception of adequacy of the minimum education level for the human resource base and labour force suggest the need to expand secondary education if Kenya is to attain a newly

industrialized country status by 2020 and also achieve vision 2030. For instance, Vision 2030 states that the overall goal for 2012 is to reduce illiteracy by increasing access to education, improving the transition rate from primary to secondary schools, and raising the quality and relevance of education. Other goals include the integration of all special needs education into learning and training institutions, achieving a 80 percent adult literacy rate, increasing the net enrollment to 95 percent, increasing the transition rates from secondary schools to technical institutions and universities from 3 percent to 8 percent (GOK, 2007).

Between 1963 and the late 1980s, the secondary sub-sector was characterized by rapid quantitative growth. This growth was associated with two phenomena emanating from the nationalist struggle for independence; the need for the new nation to develop middle-and high-level manpower to replace departing expatriates and a high social demand for education as the gateway to high status positions in the economy (Cooksey, Court and Makau, 1994). Three indicators of the growth are shown in Table 3 below.

Table 3: Growth in Secondary Education Between 1999 and 2006

Year	1999	2000	2001	2002	2003	2004	2005	2006
Schools	3,197	3,207	3,621	3,667	3,999	4,239	4,493	4,763
Enrolment	724,758	758,967	797,510	819,227	862,907	925,341	934,149	1,030,080
Teachers	40,782	40090	44,855	45,901	46,445	46,909	47,284	47,663

Source: Statistics department, Ministry of Education

The magnitude of growth was made possible by the operation of a partnership between Government, communities (through the Harambee spirit), donor agencies, NGOs, and private entrepreneurs. While Government took over existing public secondary schools and established new ones, community and private entrepreneurs respectively founded Harambee (self-help) and private schools. Gradually, some of the Harambee schools received limited Government support. Thus, within the first decade of independence four categories of schools emerged, namely: Government-maintained, Government-assisted, Harambee, and private.

By the mid-1970s it had become apparent that the expansion through self-help and private investment was having adverse effects on quality (Republic of Kenya, 1976). Most Harambee and private schools were staffed with unqualified teachers, lacked appropriate physical facilities and adequate teaching-learning materials. According to Mackay (1981) report, the student output from secondary schools had increased significantly as a result of Harambee secondary schools, new streams in Government maintained schools and private/commercial schools.

According to the Ministry of Education (MOE) statistics, there were 4,215 secondary schools in 2006, with 3547 being public institutions. Public schools were further sub-divided into a) 18 national schools (all boarding); b) (323) provincial schools (all boarding); and c) (3207) district schools (a mixture of day and boarding institutions). The national schools are among the oldest and have most of the facilities necessary for good quality education. Provincial schools are the former Government maintained boarding schools with provincial catchments. District schools are predominantly Harambee schools.

The best performing KCPE candidates are selected for entry into national schools (Indeje and Njeru, 2004). The next cadre with good KCPE grades is placed in provincial schools, with the provision that primary schools should feed into secondary schools in the same province. District schools select their Form 1 students from the remaining KCPE candidates.

Entrepreneurs own most of the private schools whose main objective is to offer access in order to supplement the Government effort in increasing access at this level although at an expensive level. During the 1980s, major changes took place in the expansion of the partnership for providing public education in Kenya. By 1985, evidence had emerged that because the public budget was constrained, an increasing share of the cost of secondary education was being passed on to households and communities (Makau, 1995). This trend was exacerbated by the introduction of the 8-4-4 system of education which had the effect of increasing both capital and recurrent costs due to a broader curriculum; rapid growth of public university enrolments which shifted most of the non-salary budgetary allocations away from the school sub-sectors (Cooksey, Court and Makau 1994) and continued downturn in the economy and structural adjustment policies which had the effect of reducing budgetary allocations to social services such as

education (Republic of Kenya, 1986). Households and communities were therefore expected to meet school development costs, as well as other recurrent costs, including those of learning materials, catering and boarding, school uniform, transport, medical expenses, co-curricular activities, remuneration of non-teaching staff and other requirements (Republic of Kenya, 1988(b)).

Two major issues arose out of the current situation (Indeje and Njeru, 2004). First, equity and quality in the provision of education seem to have been adversely affected. Second, there seemed to be need for change in the way secondary education is managed. As their contribution to secondary education increased, households and communities were becoming increasingly vocal in their demand for greater participation in the management of schools.

The slow rate of economic growth that the country experienced limited available resources for education (UNDP, 2001). Therefore, in order to develop education and training, the Government and its partners had to ensure that the education infrastructure and resources were equally distributed and efficiently managed at both national and school levels because of the persistent regional disparities in access and opportunities in education, frequently acknowledged in educational analysis in Kenya (Abagi, 1997; Bakari and Yahya, 1995; Ogot and Ochieng, 1995; Ouko, 2002; Oyugi, 2000).

In 1974, Kinyanjui conducted a study on the pattern of regional imbalances in the distribution of educational resources and opportunities in Kenya (Kinyanjui, 1974). The study revealed significant disparities between provinces and districts, along such dimensions as the proportion of primary-age group children actually in school, the distribution of secondary-school places, the opportunity to continue with further education, and so on. According to Court (1979), Kenya's education policy emphasizes academic achievement as the criterion for advancement within the system. Court (1979) concluded that so long as access to higher quality schools is visibly related to factors other than individual ability, regional and ethnic disparities in the provision of educational facilities are not redressed, it is difficult to accept that the Kenyan government follows ethos of equal opportunity.

While the Kenya Government's investment in education has increased since independence, both in terms of real expenditure, and the percentage of Government spending allocated to education. Overall public spending on education has increased significantly in line with the policy objective of EFA. The total expenditure of education increased from KSh 81,073 million in 2004/05 to KSh 96,808.85 million in 2005/06. Education expenditure as a share of GDP rose from 6 percent in 2004/05 to 6.2 percent in 2005/06. As a percentage of total expenditure, its share averaged about 25 percent over the periods 2002/03 to 2005/06 (Government of Kenya, 2007).

Regional disparities in education are closely related to, and often compounded by, other socio-economic disparities. Some provinces, like the North Eastern and Coast Provinces, have fewer schools, which are widely scattered and thus more difficult to access, and attendance is further restricted due to lack of transport facilities. It is also difficult for children to go to school if their parents cannot afford to pay their school fees, which are particularly high for secondary schooling. Education, then, acts to perpetuate economic disparities rather than bridging them, as parents in less endowed provinces, like the North Eastern and Coast Provinces, have a higher incidence of poverty than their counterparts, for example in the Rift Valley Province (Kimalu, et al, 2002).

As mentioned earlier, Kenya inherited an education system that was set up to offer unequal treatment based on racial or ethnic criteria. The greatest resources went to the so-called 'white schools', then the national schools, followed by provincial schools and, at the bottom of the table, district schools. This was the result of biased pupil selection, teacher posting, bursary allocation and general provision of facilities. It has been a system that encouraged social stratification among pupils and in Kenyan society more generally. Some of the specially favored national schools include Alliance, Mangu, Starehe, Moi Forces Academy, Kabarak, and Maseno, which are all situated in the Central and the Rift Valley and Nyanza Provinces. The situation has not changed 40 years later after independence. The disadvantage of students from the Swahili and Somali ethnic backgrounds is compounded by the fact that there are no national secondary schools in the Coast or North Eastern Provinces.

Finally, the combined effects of poverty at the household level and the high cost of education, coupled with reduced Government expenditure on secondary education, have resulted in inadequate provision of teaching/learning resources, contributing further to deterioration of performance. In its current form, The MOE bursary fund has not had the desired effect of enhancing access to, retention, and participation in secondary school education. (Institute of Policy Analysis and Research, 2003).

A major impact of the current educational reforms has been to transfer the burden of financing secondary education to the households, to the disadvantage of the poor, impacting negatively on secondary school enrolment and performance.

2.3 Education Financing

The cost of secondary education has escalated due to high indirect costs imposed by schools, many of which openly disregard the fees guidelines set by MOE. A study conducted by Institute of Policy Analysis and Research (IPAR, 2004) recommended the following policy based on its findings:

1. The MOE should only provide tentative fees guidelines and allow individual schools to work out the actual fees, taking into account geographical variations, economic potential and other socio-economic factors influencing education financing in specific circumstances. This would in effect promote ownership at the primary stakeholder levels and possibly promote enforcement of fees collection efforts.
2. The MoE should monitor the effectiveness of indirect secondary school levies, namely holiday and weekend tuition and mock examination fees and possibly abolish them if they do not significantly enhance performance. Consequently, schools should diversify their income-generating activities, making more use, for example, of such income sources as school farms.
3. Proper accounting for funds from different income-generating projects should be made. Surplus funds could be used to assist the poor and vulnerable students in meeting their fees requirements or even improving the quality of facilities and services at the school.

Teachers' conditions in most African countries in terms of management benefits and professional support are poor and teacher motivation and performance is low. This situation has been

detrimental to the quality of basic education in these countries. The IPAR (2003), observe that, the household expenditure on various secondary education related items indicated regional variation across the country, with urban households spending a larger proportion of their incomes on secondary education. (approximately KShs 34,923 per child), while households in the high potential rural areas spent the least proportion (KShs 21,170 per child). At the national level, households spent on the average, a total of KShs 24,370 per child on secondary school education. 37.3% of this cost is spent on indirect educational costs, namely uniforms, books/stationery, pocket money, and transport. This suggests that indirect costs constitute a critical element in secondary school education financing.

The expenditure on secondary educations accounts for the second largest share of expenditure within the education sector. On average, for every four shillings allocated to the sector, one shilling is spent on the secondary education sub sector. In absolute terms, the sub sector expenditure grew from KShs 19 billion in 2004/2005 to KShs 23 billion in 2005/2006. Enrollment rates in secondary schools also recorded a marginal rate during the period (Government of Kenya, 2007).

The current Government policy on how schools should raise funds gives head teachers much leeway to decide on the type of educational levies to impose on households. Most of these levies are imposed and hiked regardless of the households' ability to pay. IPAR (2003) revealed existence of undemocratically 'stage-managed' annual general meetings where decisions are forced on households. In other cases, some head teachers introduce prizes for best students with the actual motive of camouflaging their roles in financial mismanagement of school funds. These malpractices, inflate education levies and costs, in effect locking poor students out of secondary education. Research has shown the importance of education not only for earnings but also for labour force participation and employment. Ferreira and Litchfield (1998: 32) report that between one-quarter and one-third of income differentials between households in Chile can be ascribed to differences in the educational attainment of the household head; in South Africa this proportion is lower (about 16 percent in 1995), yet still very important

2.4 Monitoring, Assessment and Evaluation

A prerequisite of a successful education system is the existence of a regular provision of formative feedback to the teaching-learning process. Formative feedback ought to be provided by the school professional staff as they carry out their teaching duties, the school inspectorate as part of its monitoring and guidance responsibilities, and the public examinations body. Students' performance in the KCSE examination enables teachers, schools, MOE and society to evaluate the extent to which secondary schools are succeeding. However, KCSE examination results potential as formative feedbacks to teaching and learning is limited. First, the examination measures the cumulative outcome of students' academic progress over the four-year course and thus, does not indicate progress at the end of the first, second or third year.

Second, the grading system is intended to compare the candidate's performance with the rest of the peers not how much one has mastered the curriculum/syllabus. The KCSE examination is regarded as an important measure of the quality and effectiveness of the secondary school system. Among other things, students who are deemed to have performed well in the examination stand a good chance of being selected for the entry into university and other tertiary training. Table 5 shows the growth of the KCSE candidate between 1989 and 1993.

Table 4: Kenya Certificate of Secondary Education (in Thousands) by Sex from 2002 to 2006 in thousands

Year	Male	Female
2002	29.8	26.4
2003	29.7	27.4
2004	32.1	27.6
2005	31.3	27.2
2006	34.6	29.9

Source: Kenya National Examination Council records

2.4 Teacher Qualification and Academic Performance

2.4.1 Licensure and Certification

Essentially, certification is designed to protect the public from harm by identifying which teachers do and do not possess the qualities necessary to teach. Certification, however, is

different from the licensure structure for some other professions such as cosmetology, law, and medicine (Iaczk-Kerr and Berliner, 2002). In other effects of teacher qualifications professions, practitioners must possess a license in order to practice (Pyburn, 1990). However, no such requirement is in place within the education profession. Thus, uncertified individuals still legally may be employed as teachers.

Proponents of teacher certification standards purport that specific teacher characteristics such as certification and academic major are associated with increased gains in student achievement (Darling-Hammond, 2000). Others declare that the available research does not support effects of teacher qualifications specific rigorous teacher preparation and certification standards. Two recent works stated that teacher certification requirements do not effect student achievement, but do raise barriers that prevent qualified applicants from entering the profession (Ballou and Podgursky, 2000a, 2000b). There is, as indicated below, little agreement on the association between student achievement and a number of teacher characteristics related to the issue of certification.

2.4.2 Subject-Matter Preparation

Although one might assume the literature base establishing a positive relationship between a teacher's subject-matter knowledge and increased student achievement is both voluminous and consistent, Wilson et al. (2001) found that the research base in this area is, in fact, relatively small and certainly not consistent. Indeed, Wilson et al. stated, "The conclusions of these few studies (on the connection between subject-matter preparation and student achievement) are provocative because they undermine the certainty often expressed about the strong link between college study of a subject matter and teacher quality" (p. 6). In their review, Wilson et al. found only a few studies that examined teacher preparation, subject-matter knowledge and student achievement that met their rigorous criteria for inclusion in their review.

Goldhaber and Brewer (2000) found that students with teachers with degrees in mathematics had greater gains in achievement than students with teachers with non-mathematics degrees, but the researchers found no such results for science. In a previous study, Goldhaber and Brewer (1996) found that subject-specific training in mathematics and science has a significant and positive

impact on student achievement in these areas. This suggests that greater subject-matter knowledge is associated with gains in student achievement, albeit only in the areas of mathematics and science.

Also with respect to degree level, Ehrenberg and Brewer (1994) found that the percentage of teachers with at least a master's degree were associated with greater achievement for African American students in mathematics, reading, and vocabulary. Likewise, Ferguson (1991) found that the percentage of teachers with master's degrees was positively associated with student achievement gains at the district level. Alternatively, Rivkin, Hanushek, and Kain (2002) stated that master's degrees are not related to teacher effectiveness. However, the authors only examined the scores at the elementary grades. Again, looking at mathematics, Rowan, Chiang, and Miller (1997) found that students taught by teachers with mathematics major had greater gains in student achievement, although the effect on student achievement was rather small. Likewise, Wenglinsky (2002) found that mathematics and science teachers with an undergraduate minor or major in their field elicited greater gains in student performance. In fact, Wenglinsky noted, "Students whose teachers majored or minored in the subject area that they are teaching outperform their peers by about 40 percent of a grade level in both mathematics and science." (p. 7). While not directly investigating the effect of an undergraduate degree, Hawk, Coble, and Swanson (1985) found that students with mathematics teachers assigned in-field and who possessed a major or minor in mathematics scored higher and had greater gains than students with mathematics teacher's assigned out-of field and who did not have a major or minor in mathematics.

In a comprehensive study, Monk (1994), found that undergraduate coursework in mathematics was positively related to student improvement in mathematics, but that having mathematics major had no effect or a negative effect on student performance. However, when examining the effect on students by their type of course, Monk found that additional undergraduate mathematics courses did positively impact student achievement for students in advanced courses, but had no effect on student achievement for students in remedial courses. With respect to the life sciences, Monk found that coursework had no effect on student achievement. With respect to undergraduate coursework in the physical sciences, he found a positive relationship between the

number of courses and gains in student achievement. Interestingly, unlike with mathematics, having a science major was positively associated with gains in student achievement.

In a review of the literature, Byrne (1983) reviewed 30 studies that focused on the relationship between subject-matter knowledge and student achievement. A slight majority of the studies showed a positive relationship, while the remainder did not. Druva and Anderson (1983) also completed a comprehensive review of the literature available at the time and concluded that there is a positive relationship between teachers' science coursework and student performance, especially for students in higher level courses.

Darling-Hammond (2000) found that the percentage of teachers with both a subject matter major and full state certification was positively associated with a state's reading and mathematics scores. A more recent analysis by Wenglinsky (2000) used multilevel structural equation modeling to analyze data and found that teachers with a major or minor in the subject area that they are assigned to teach produce greater gains in student achievement in both mathematics and science.

The overall findings from these studies suggest that teacher subject-matter knowledge positively influences student achievement. Moreover, this effect seems to be more pronounced for the upper grades than the lower grades. The research, however, is not consistent. Some studies showed no effect for teacher subject-matter knowledge. In addition, the majority of studies focused on mathematics and science teachers. Thus, far less is known about teachers of English language arts, social studies, and other disciplines.

2.4.3 Pedagogical Preparation

Monk (1994) found that, in many cases, undergraduate coursework in mathematics pedagogy contributed more to gains in student achievement than did undergraduate coursework in mathematics. He also found that undergraduate coursework in science pedagogy was positively associated with student achievement for students and that graduate coursework in science pedagogy was positively associated with student performance. Ferguson and Womack (1993), measuring teacher effectiveness through supervisor evaluations, found that education coursework

explained a greater proportion of the variation in evaluations than did content knowledge as measured by standardized test scores. Indeed, education coursework explained 16 percent of the variance in the evaluations.

In their review of the literature at that time, Ashton, Crocker, and Olejnik (1986) found education coursework to be positively associated with student achievement. Likewise, in a meta-analysis of 65 studies on the relationship between science teacher preparation and student achievement, Druva and Anderson (1983) found that education coursework were positively associated with successful teaching.

Nathan and Petrosino (2003) concluded that educators who have advanced knowledge of a subject, but lack concomitant knowledge of how novices actually learn that subject tend toward views of student development that align more closely with the organization of the discipline than with the learning processes of student (p. 906). The authors indicated that their findings call into question the policies that seek to streamline the licensure process of new teachers on the basis of their subject-matter expertise.

Related to the issue of pedagogical preparation are the actual classroom behaviors of uncertified and certified teachers. Most studies examining the performance of teachers under natural teaching conditions date from the 1950s and 1960s (Ashton and Crocker, 1987). In general, these studies relied on the ratings of administrators, professors, and other instructional experts regarding the performance of fully certified and provisionally certified teachers. The study by Gerlock (1964, as cited by Ashton and Crocker, 1987) focused on secondary teachers and used observations by principals using a teacher evaluation form developed by the Florida Department of Education. Relevant to this study, the results of chi-square analyses showed statistically significant differences between provisionally and fully certified teachers on teaching skills, professional ethics, and performance. A study by Cornett (1984a) examined the classroom performance of teachers holding regular and temporary teaching certificates in Georgia. Teachers in both groups held bachelor's degrees and were matched on subject and grade level taught. Teachers were evaluated using a locally developed teacher evaluation system. The results of the study showed that the fully certified teachers had higher average scores. However, since the fully

certified teachers also had greater average teaching experience, it is difficult to draw conclusions from this study. Another study by Cornett (1984b) compared the classroom performance of 191 provisionally certified teachers and 292 fully certified teachers in North Carolina. The teachers' performances were rated on 33 basic teaching functions using a 4-point scale. Again, Cornett found no differences in the mean scores of the two types of teachers. A study by Clarridge (1990) found that after controlling for experience, teachers with pedagogical training were better able to ensure students were on task, to provide appropriate feedback to students, properly to assess student achievement, and more effectively to deliver the content.

Wenglinsky (2002) conducted the most recent and most rigorous research relating teacher behaviors and student achievement. In his study, he linked teacher behaviors in the classroom with student achievement on the National Assessment of Educational Progress (NAEP). He contended that one of largest influences on student achievement is particular teacher behavior. For example, he found that students in classes in which mathematics teachers emphasize higher order thinking skills score about 40% of one grade level higher than their counterparts in classes in which teachers do not emphasize higher order thinking skills. In both mathematics and science, students in classrooms in which teachers require hands-on learning activities have greater scores in both subjects than their peers.

In their review of the literature on pedagogy and subject-matter knowledge, Ashton and Crocker (1987, p. 6) concluded, "Findings do not provide an empirical justification for increasing requirements in academic subject areas at the expense of reducing coursework in how to teach." In other words, both subject-matter and pedagogical expertise are important factors in explaining student achievement.

2.4.4 Teacher Experience

Teacher experience has been thought to affect student achievement, with more experienced teachers associated with greater gains in student achievement. Although not directly related to teacher certification, there is a connection between the two. Beginning teachers who are fully certified tend to have more classroom experience than their uncertified counterparts. This experience is gained through observation blocks and student teaching as an undergraduate. Most

uncertified beginning teachers do not have these types of experiences, thus have less actual classroom experience. In studying the effects of teachers on student achievement in elementary schools, Rowan, Correnti, and Miller (2002) found rather large effects on student achievement in both mathematics and reading. The effect sizes for one year ranged from 0.21 to 0.42 in mathematics and reading, while the effect sizes over three years ranged from 0.77 to 0.88. The largest predictor of student achievement in terms of teacher characteristics was teacher years of experience. Ferguson (1991), in his study of over 900 school districts in Texas, found that teacher experience was positively associated with student achievement gains at the district level. Likewise, Murnane and Phillips (1981) found that teacher experience had a positive effect on student achievement for inner-city students. In their study of high school students, Ehrenberg and Brewer (1994) found that teacher experience was positively related to white and African American student gain scores, but negatively related to Hispanic gain scores. Goldhaber and Brewer (1996) also found that teacher experience is positively related to high school student achievement. Interestingly, in his study of high school mathematics and science teachers, Monk (1994) found that teacher experience had no effect on student performance.

2.4.5 Certification and Student Achievement

As Ashton and Crocker (1987) and Goldhaber and Brewer (2000) noted, very few studies have compared the performance of students taught by uncertified or improperly certified teachers and by properly certified teachers. Hall (1962) conducted one of the earliest of such studies. He compared student gain scores on six areas of the Stanford achievement test for 21 provisionally certified teachers and 17 fully certified teachers who were assigned to teach grades 3–5. Hall found that the students taught by fully certified teachers made statistically significantly greater gains in spelling, paragraph meaning, and word meaning.

Strauss and Sawyer (1986) examined the relationship between National Teacher Examination (NTE) scores of North Carolina teachers and district-level student performance. They found that teachers' scores on the NTE and student performance were strongly and positively associated. A similar study by Ferguson (1991) in Texas focused on the relationship between district-level financial and human resources and student performance. Ferguson found that composite teacher

qualifications explained more of the between-district variance in scores than did student socioeconomic status.

Ferguson measured teacher quality by examining teachers' experience levels, degree levels and scores on a state licensing examination given to all teachers in the field. The Texas Examination of Current Administrators and Teachers (TeCAT) measured teachers' basic verbal and mathematics skills as well as teaching knowledge. Of these teacher quality components, the component with the strongest relationship to student performance was teacher scores on the state licensing examination. Hawk et al. (1985) conducted one of the best studies of the effect of teacher certification on student performance. In this study, the researchers compared the mathematics achievement of students taught by improperly and properly certified mathematics teachers. Thirty-six teachers and 826 students participated in the study, which assessed student achievement in both general mathematics and algebra. The researchers found that students taught by properly certified mathematics teachers made statistically significantly greater gains in both general mathematics.

Goldhaber and Anthony (2004) found that elementary student achievement gains were larger for student taught by the National Board for Professional Teacher Standards (NBPTS) certified teachers than students taught by non-certified teachers. Another recent study found that Arizona students who had teachers that were National Board Certified had greater gains in achievement (Vandevoort, Amrein-Beardsley & Berliner, 2004). Goldhaber and Brewer (2000) found that 12th-grade students taught by teachers certified in mathematics had greater gains on a mathematics assessment than students taught by either uncertified teachers or teachers certified in non-mathematics subject areas. In other words, they found that improperly certified teachers produced lower gains in student achievement than properly certified teachers. On the other hand, the researchers found that there were no differences in the gains in student achievement on a science assessment between students taught by teachers certified in science and students taught by either uncertified or improperly certified teachers.

Results in a study by Alexander and Fuller (2004) indicated that examination scores for students who had certified teachers compared to non-certified teachers were statistically significant.

Results indicated that, on average, students who had a certified teacher had greater gains on the mathematics examination than students who had non-certified teachers, after controlling for several variables. Darling-Hammond (2000) found that the percentage of teachers with both a subject matter major and full state certification is positively associated with a state's reading and mathematics scores on the NAEP. She also found that a state's average NAEP scores in mathematics was negatively associated with the percentage of teachers less than fully certified, the percentage of beginning teachers less than fully certified, and the percentage of all newly hired teachers not certified. Goldhaber and Brewer (2000) also found students taught by fully certified mathematics and science teachers had greater gains in student scores than students taught by teachers with emergency, probationary, or no certification. The results for mathematics were stronger than for science.

A recent study by Laczko-Kerr and Berliner (2002) directly addressed the issue of the effect of teacher certification on student achievement. The researchers created matched pairs of certified and uncertified teachers. Teachers were matched based on their certification status (an uncertified teacher was matched with a certified teacher) and were matched with teachers within the same school, within the same district, or within similar districts. This matching procedure was adopted to "minimize exogenous variables associated with student achievement scores" (Laczko-Kerr and Berliner, p. 24). Based on their analysis of the gain scores of 109 matched pairs of teachers, the authors found that students in classrooms of under-certified teachers would have made 20 percent more growth had they been assigned to certified teachers classrooms. Indeed, they asserted their findings support the contention that "university prepared teachers are of higher quality than those prepared without an approved program of preparation" (Laczko-Kerr and Berliner, p. 39).

While some studies suggest that certified teachers are more effective in eliciting greater gains in student achievement from their pupils, the research is far from conclusive. First, the studies are contradictory in their results, and second, a very small number of studies have been published.

CHAPTER THREE RESEARCH METHODOLOGY

3.1 Study Area

The study was limited to Eastlands in Nairobi Province. While acknowledging that the issue of school fees, teacher qualification and performance of secondary schools is a national one, it is not possible to carry out a national survey with limited resources and time constraints. Nairobi is the smallest province in Kenya but has the highest concentration of people from all corners of the republic. Available public secondary schools are not adequate for the many school age going students in Nairobi. Entrepreneurs own most of the private schools whose uppermost objective is to convert the excess demand for education (those not selected by public schools) for profit. However, few private schools cater for KCPE first cadre students from elite backgrounds; these few private schools are as good (and in some cases better) than the public schools.

Nairobi was chosen due to the fact that being the capital city of Kenya, the urban population is diverse both in its ethnic dimension and income levels and hence, the likelihood of accessing households that take their children in different types of schools is high. Schools are also located in very diverse locations, some even in residential places as well as in commercial buildings, which might pose different challenges to the learners.

3.2 Population of the Study

The study was carried out in Nairobi province. This province is the capital city of Kenya and has over two million inhabitants from various geographical regions of the republic. Nairobi is divided into eight administrative divisions namely: Embakasi, Makandara, Kibera, Pumwani, Central, Kasarani, Westlands and Dagoretti.

3.3 Sample Size

Purposive sampling was used to select Embakasi, Makandara, Pumwani and Kasarani divisions, which are located in the Eastlands part of Nairobi. Each of these divisions has a large population of poor people living in slums or informal settlements and who are likely to have the characteristics of most Kenyans. The four divisions also have a large proportion of public and private secondary schools. Their selection was justified on the basis of cost and accessibility since most of the schools are clustered within confined geographical area. According to the

Provincial Education Office, Nairobi, there are fifty public secondary schools in Nairobi. The sample size for this study is 31 secondary schools.

3.4 Data Collection

Secondary data was used for this study. Data on performance of private and public secondary schools was obtained from the Kenya National Examination Council (KNEC) and the Provincial Director of Education offices. Data on teacher qualifications and the fees structures was obtained from the heads of schools. The instrument for collecting this data was a template with columns on year, name of the school, means score (examination performance), amount of fees per year and teacher qualifications. The period of study will span from 2002 to 2006.

3.5 Data Analysis

The SPSS and spreadsheets were used to analyse data, which was analyzed using the trend analysis. These were used to determine the relationship between the variables of interest. The influence of teacher qualification and fees paid on performance in schools was determined by performing a correlation analysis between fees and teacher qualification and performance. A correlation analysis was performed to determine whether the differences in fees paid in private and public secondary schools are statistically significant. Correlation was also used to analyze whether there is statistical differences between performance in private and public secondary schools in Nairobi.

CHAPTER FOUR DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter presents data analysis from the secondary data collected on teacher qualifications, school performances and fees paid in selected secondary schools in Nairobi. The data is analyzed and presented in form of charts and tables.

4.2 Influence of Fees Paid on Performance

One of the objectives of this study was to determine whether fees paid in secondary schools and the qualifications of teachers in various secondary schools influences overall academic performance in schools. As presented in Figure 1 below, the trend analysis shows that the fees have been slightly rising and performance has also been rising in the public secondary schools surveyed. There was an upward trend in performance over the years as the fees rose significantly.

Figure 1 Fees Paid and Performance in Public Schools

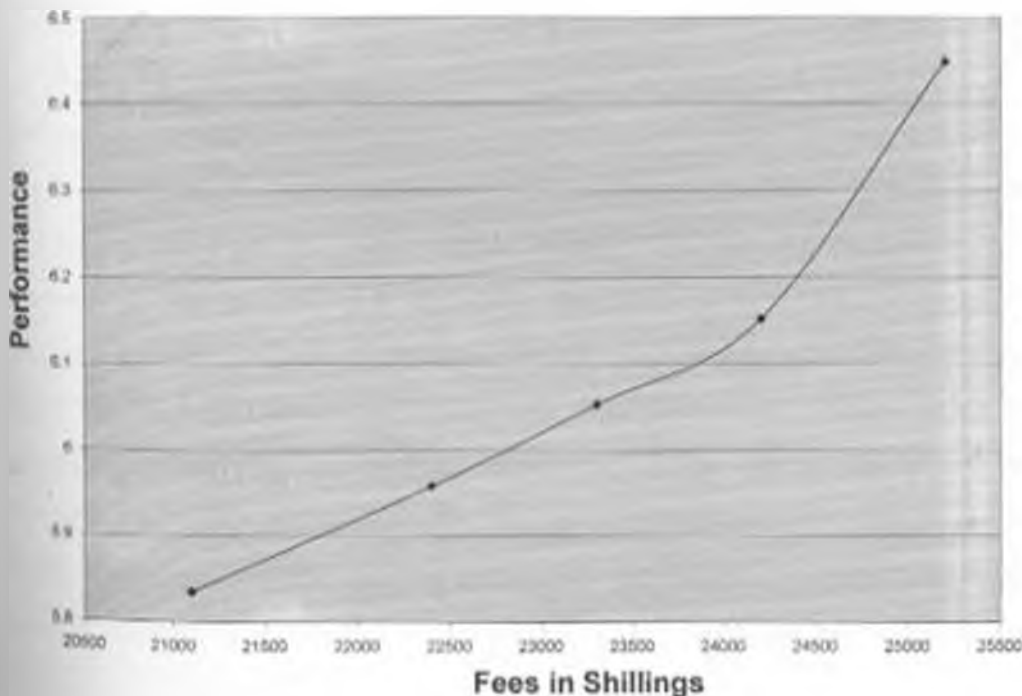


Table 5 Correlation between Fees Paid and Performance in Public Schools

		Fees in public schools	Performance in public schools
Fees in public schools	Pearson Correlation	1	0.961
	Sig. (2-tailed)		0.009
	N	5	5
Performance in public schools	Pearson Correlation	0.961	1
	Sig. (2-tailed)	0.009	.
	N	5	5

** Correlation is significant at the 0.01 level (2-tailed).

As the correlation analysis in Table 5 above reveals, there is a strong positive relationship between fees paid and performance in public secondary schools. This is shown by a strong relationship of the Pearson correlation coefficient of 0.961. The coefficient of determination shows that 92.4 percent of the variation in performance in public schools is explained by the differences in fees paid. The computation of the probable error in correlation also reveals that the correlation is significant as it is 42.15 times the probable error in correlation. This analysis shows that performance in public schools is affected by the fees paid in schools. The public schools that charge higher fees tend to perform better than the public schools that charge low fees.

For private schools, it can be observed from Figure 2 below that the fees rose over the years but performance did not rise in the same breath as the rise in fees. The performance rose steadily as the school fees rose up to about KSh 36,000 when the mean scores were highest. A further increase in fees shows the performance declining up to a mean score of 4.5 where the fees charged are KShs 38,000. From here, the schools charging more fees are seen to be performing better as the mean scores are rising. The trend in Figure 2 below seems to suggest that the schools charging between KShs. 36,000 and KShs 38,000 show low performance results. Performance seems to rise with the rise in fees charges for private schools charging between KShs 34,000 and 36,000 and those charging between KShs 38,000 and KShs 40,000. But the correlation analysis presented in Table 6 below suggests that the correlation is not significant.

Figure 2 Relationship between Fees Paid and Performance in Private Schools

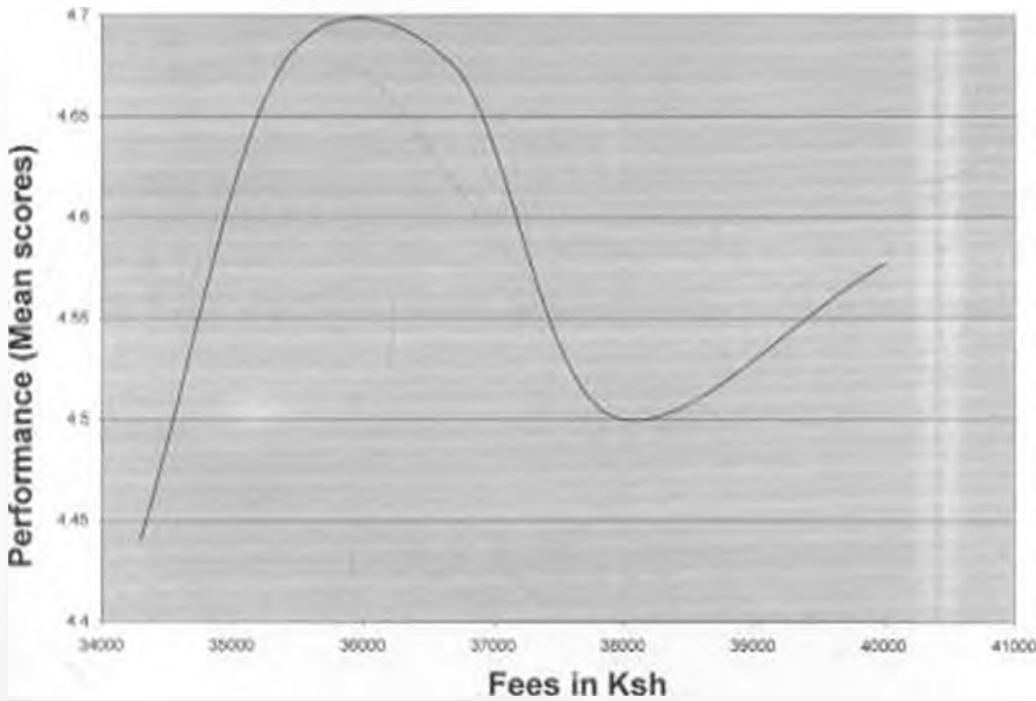


Table 6 Correlation between Fees Paid and Performance in Private Secondary Schools

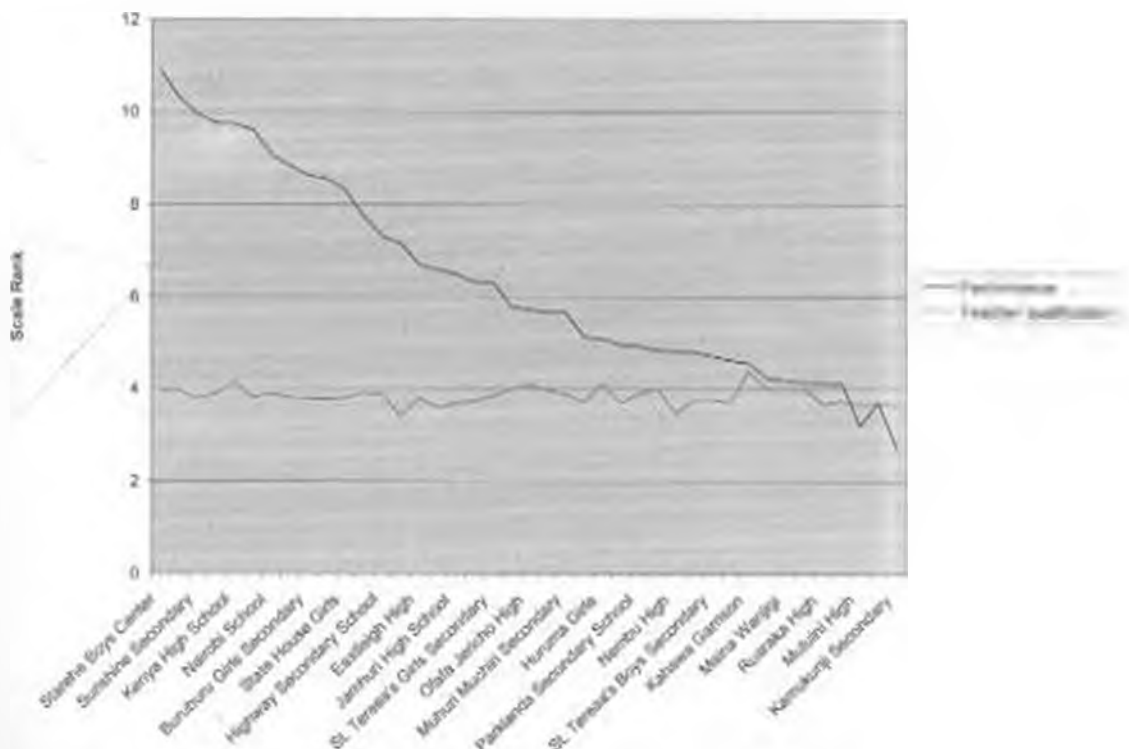
		Fees in private schools	Performance in private schools
Fees in private schools	Pearson Correlation	1	0.120
	Sig. (2-tailed)		0.848
	N	5	5
Performance in private schools	Pearson Correlation	0.120	1
	Sig. (2-tailed)	0.845	.
	N	5	5

Table 6 above shows that there is a weak positive relationship between fees paid and performance in private secondary schools. The coefficient of determination shows that the fees charged by private secondary schools only explains 1.4 percent of the variation in the performance. The correlation coefficient is 0.41 times the probable error in correlation. This therefore confirms that the correlation is not significant. Much of the variation in the performance of private secondary schools is as a result of other factors other than the fees charged.

4.3 Influence of Teacher Qualifications on Performance

To determine whether teacher qualification influences performance, a trend analysis was performed. Teacher qualification was matched against performance. The data for teacher qualification was coded so that the mean scores could be used in the analysis. Masters degree was coded as 5, undergraduate degree was coded 4, diploma was 3, A level was 2 while others was coded 1. These weights were then averaged to give an overall score for the school. The grades determined were then plotted against performance in the respective schools over the year. The results are summarized and presented in Figure 3 and Table 7 below.

Figure 3 Teacher Qualification and Performance



As can be observed from Figure 3 above, the trend analysis shows that most teachers have the undergraduate degrees. The trend analysis also reveals that the schools having more teachers with masters degrees do not perform much better than the other schools without the masters degrees teachers. Thus, teacher qualification did not show much on the performance in schools. In fact, the schools that had more of graduate teacher and diploma teachers performed better than

those with teachers with master degrees. The correlation analysis in Table 7 below sheds more light on the relationship between teacher qualification and performance in secondary schools.

Table 7 Correlation Between Teacher Qualification and Performance

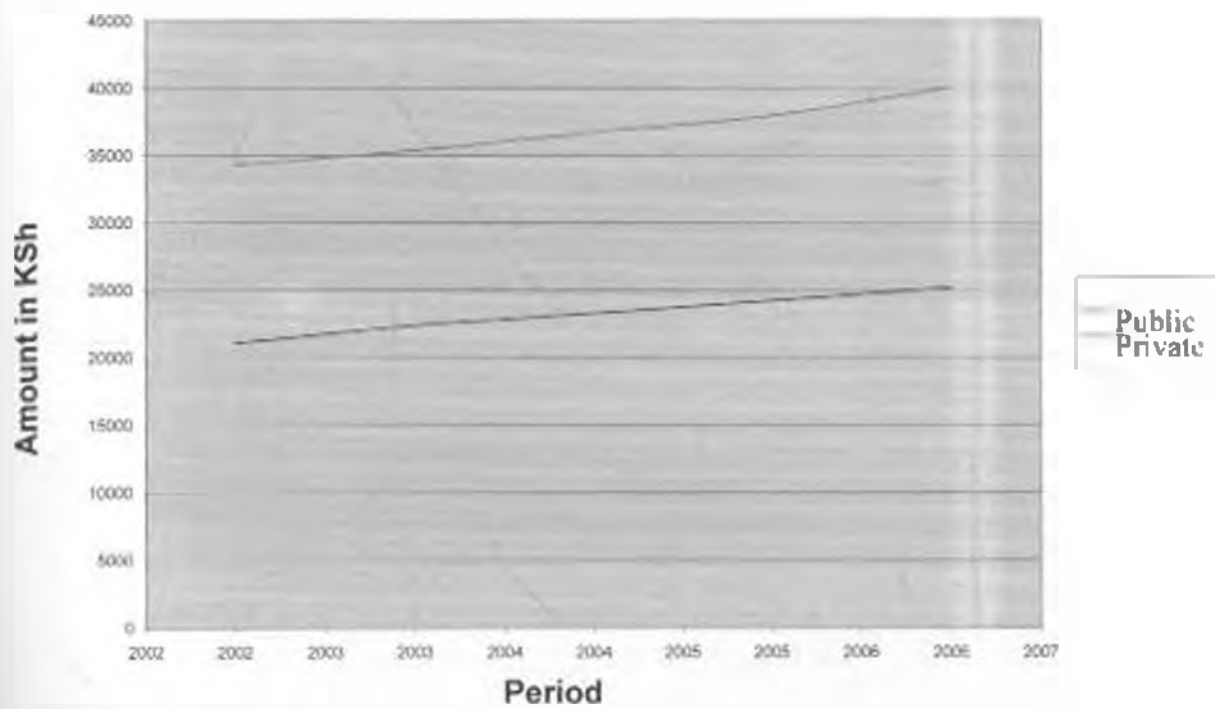
		Teacher qualification	Performance
Teacher qualification	Pearson Correlation	1	0.103
	Sig. (2-tailed)		0.520
	N	41	41
Performance	Pearson Correlation	0.103	1
	Sig. (2-tailed)	0.520	
	N	41	41

As revealed in the correlations analysis in Table 7 above, there is a very weak positive correlation between teacher qualifications and performance in secondary schools. The Pearson correlation coefficient is 0.103 meaning that the variation in the performance is explained by only 1.1 percent change in teacher qualification, and the results are not significant. The insignificance of the correlation is also shown by the probable error in correlation, which shows that the correlation coefficient is only 1 times the probable error in correlation. The study therefore reveals that teacher qualification is not an important factor in determining the academic performance of a secondary school.

4.4 Fees Paid in Public and Private Secondary Schools

The study also sought to determine whether there is a significant relationship between fees paid in public and private secondary schools. As has been presented in Figure 4 below, there is a significant difference between fees paid in public and private secondary schools. Over the years, public secondary school fees have been lower than those paid in private schools. As the trend analysis in the figure below reveals, fees in private secondary schools have been higher than those in public secondary schools. But the fees has been rising in both public and private secondary schools over the years.

Figure 4 Fees paid in public and private schools



The Pearson correlation coefficient in Table 8 below shows that there is a strong correlation between fees paid in public and private secondary schools. This is because the correlation coefficient of 0.985 shows that there is a strong positive relationship between fees paid in private and public secondary schools. The coefficient of correlation is 0.97 meaning that 97 percent variation in the dependent variable is explained by the change in the independent variable. The calculation of the probable error in the correlation shows that the correlation is 111 times the probable error in correlation. Thus, the correlation is significant.

Table 8 Correlation Between Fees Paid in Public and Private Secondary Schools

		Fees paid in private schools	Fees paid in public schools
Fees paid in private schools	Pearson Correlation	1	0.985
	Sig. (2-tailed)	.	0.002
	N	5	5
Fees paid in public schools	Pearson Correlation	0.985	1
	Sig. (2-tailed)	0.002	.
	N	5	5

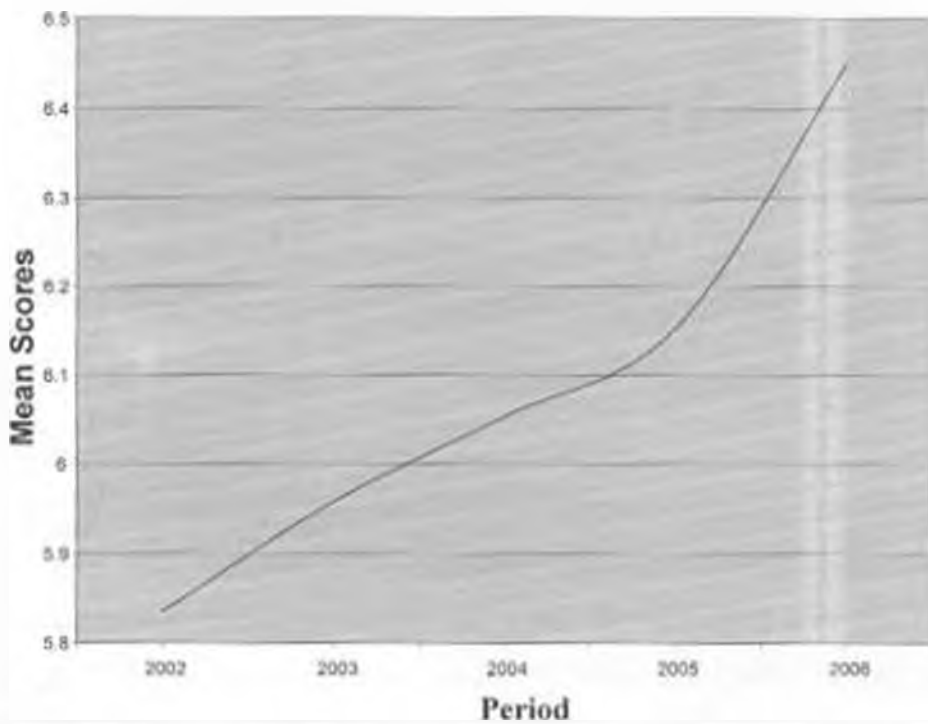
** Correlation is significant at the 0.01 level (2-tailed).

The study therefore concludes that the differences in fees paid in public and private secondary schools are significant. The private secondary schools charge higher fees than the public secondary schools.

4.5 Performance in Public and Private Secondary Schools

As regards the objectives of determining whether there is a significant relationship between performance in public and private schools, the results presented in Figure 5 below shows that performance in public secondary schools has been rising over the years.

Figure 5 Performance in Public Schools

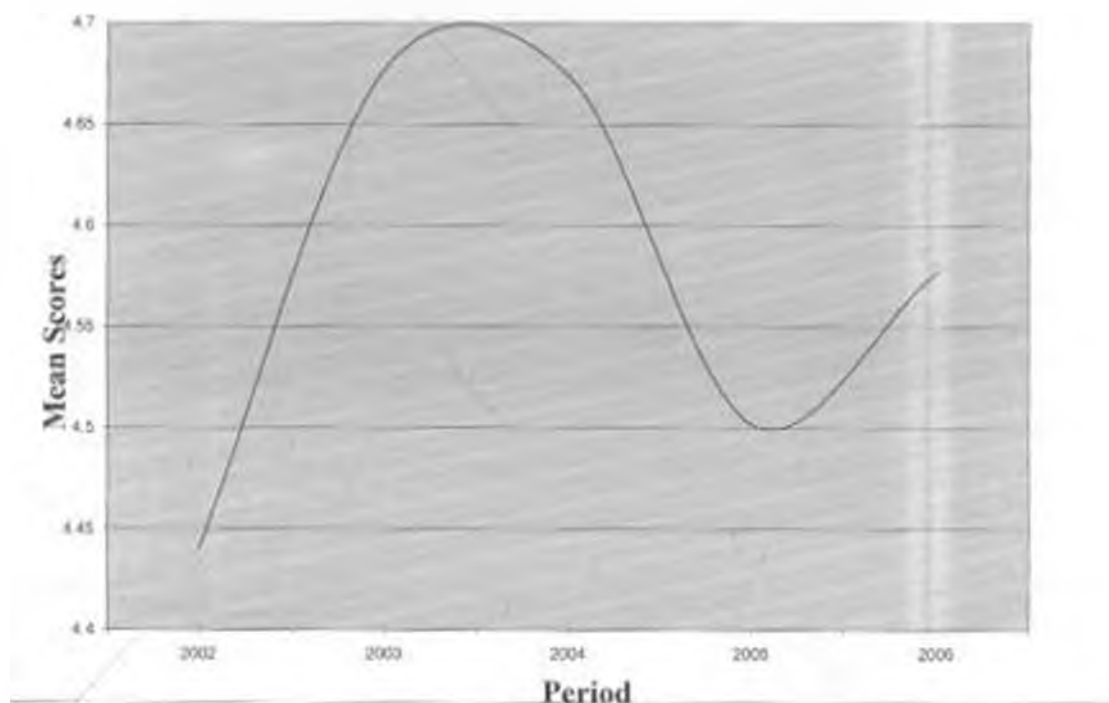


A closer look at the trend analysis in Figure 5 above shows that the rise in performance of public secondary schools was steady but slow from 2002 to 2005. The rise in performance for 2006 was steep. This suggests that the performance in public schools has risen rapidly. The factors leading to this phenomenon are however beyond the scope of this study.

The performance in private secondary schools has not been steady. The trend analysis in Figure 6 below shows that the performance has not been steady. The performance in private secondary rose in 2002-2003 academic year then fell sharply in 2004-2005 academic year before rising

again in 2005-2006. The decline in performance began in 2003-2004 academic year but the fall was not as steep as the 2004-2005 academic year.

Figure 6 Performance in Private Schools

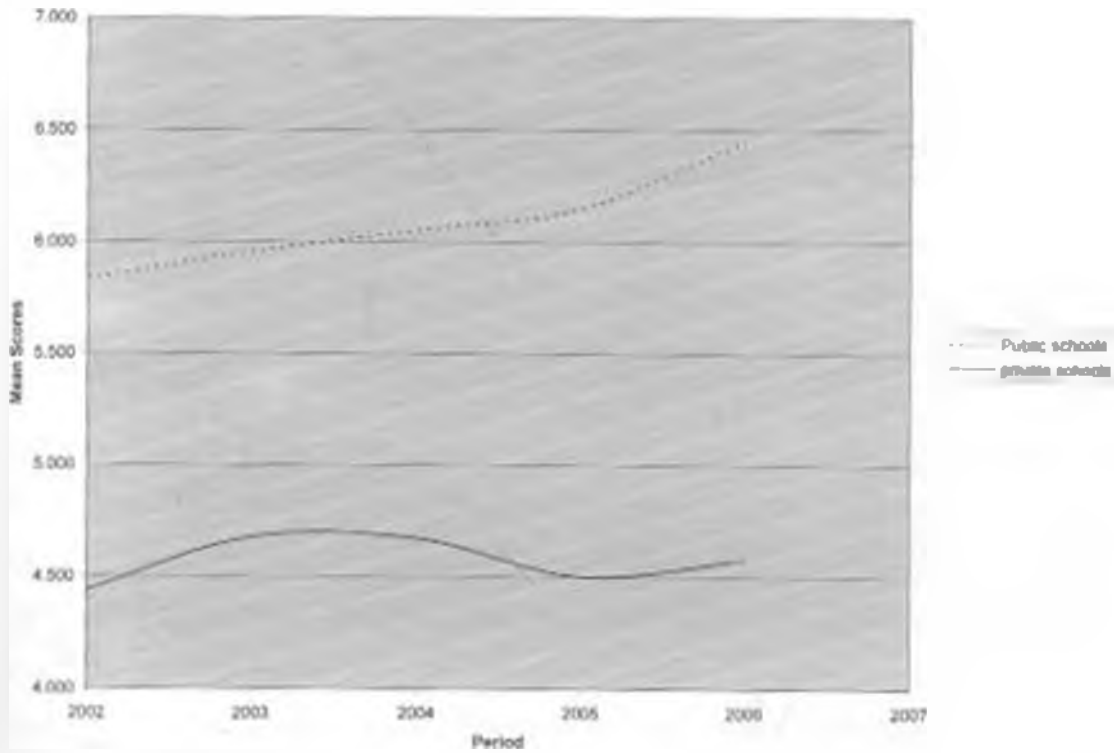


The summary presented in figure 7 below reveals that public schools have been performing better than the private ones over the years. The performance in public secondary schools has been steadily rising over the years as has the performance in private schools. The mean scores for the public schools are however higher than those for the private schools. The correlation analysis in Table 9 below however shows that the differences in performances in both private and public secondary schools are insignificant.

Table 9 Correlation Coefficient for Fees Paid in Private and Public Secondary Schools

		Performance in public schools	Performance in private schools
Performance in public schools	Pearson Correlation	1	.139
	Sig. (2-tailed)	.	.824
	N	5	5
Performance in private schools	Pearson Correlation	.139	1
	Sig. (2-tailed)	.824	.
	N	5	5

Figure 7 Performance in Public and Private Secondary Schools



As revealed in the correlation analysis in Figure 7 above, there is a weak positive relationship between performance in public and private secondary schools. The correlation is not significant because it is 0.48 times the probable error in correlation. The coefficient of determination also shows that the change in the dependent variable is only explained by 1.93 percent change in independent variable.

CHAPTER FIVE CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This study was designed to seek answers to three main objectives. The first objective was to determine whether fees paid and teacher qualification influence performance in secondary schools. The second objective was to determine whether there is a significant difference between fees paid in public and private secondary schools. The third and last objective was to determine whether there is a significant relationship between performance in public and private secondary schools.

The study found out that fees paid in public secondary schools were lower than that paid in private secondary schools. For public secondary schools, there is a strong positive relationship between the fees paid and performance. The performance of public schools tends to rise with the increase in fees charged. The correlation was found to be very significant. It can be concluded that for public secondary schools, the fees paid influence performance. As 92 percent of change in performance is explained by the change in fees, the rise in fees charged in public secondary schools over the last years can be justified by the steady rise in performance over the same period.

The situation in private secondary schools is not the same. The performance has not been rising with an increase in fees. The correlation analysis revealed that there only exists a very weak positive relationship between fees charged in private secondary schools and performance. Only 1.4 percent of change in performance is explained by the change in fees paid. The correlation was therefore found to be insignificant. Thus, the study concludes that the rise in fees is not reflected in the performance of private secondary schools. This begs the questions of whether parents should continue paying higher fees in private secondary schools yet performance in private schools is not as a result of the fees paid. The fees paid therefore influences performance in public and not in private secondary schools.

The study further found out that some schools had teacher with very high qualifications such as masters and doctorate degrees. When these qualifications were weighted and plotted against performance, the results showed a very weak influence of teacher qualification on performance.

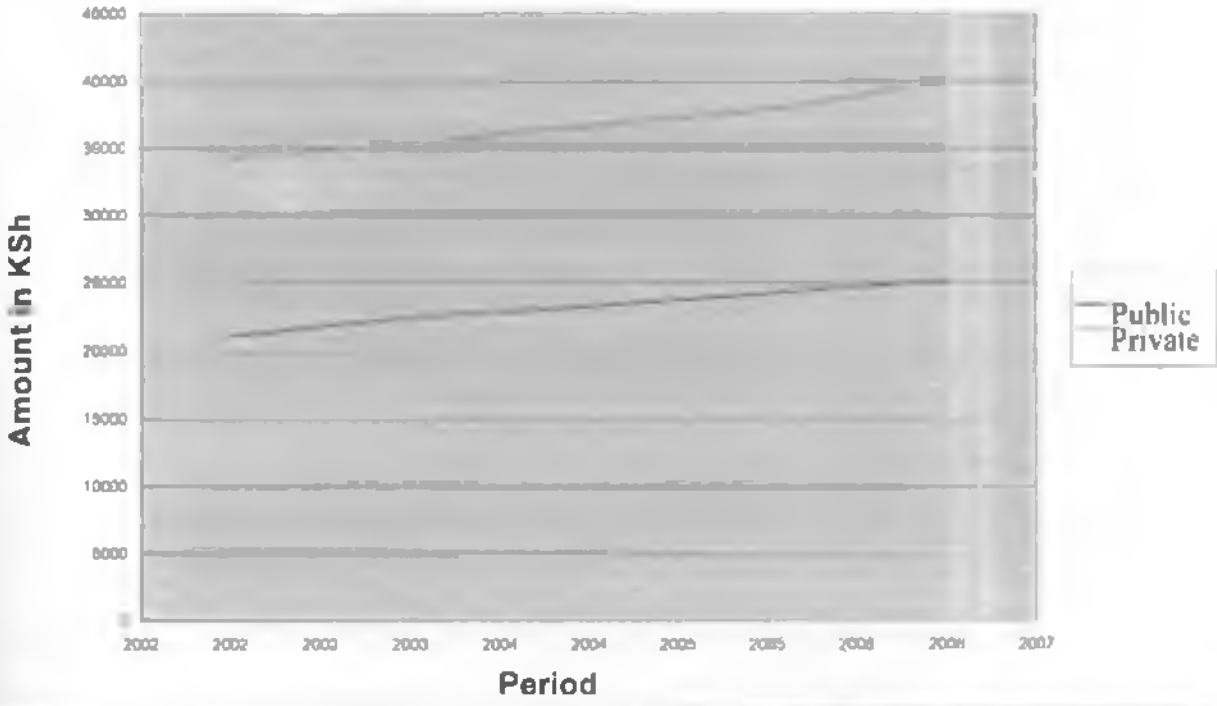
The schools that had more qualified teachers did not perform better than others that had averagely qualified teachers. The correlation analysis revealed that there is a weak positive relationship between teacher qualification and performance of schools. Teacher qualification was found to influence only 1.1 percent of the change in performance of secondary schools. Further calculation of the probable error in correlation revealed that the correlation is indeed insignificant.

It can be concluded that what influence performance is not the qualification of teachers per se but may be the number of qualified teachers available in the schools. Higher qualifications of teachers do not reflect in the performance of secondary schools. This is inconsistent with the study by Darling-Hammond (2000) who found out that academic major is associated with increased gains in student achievement. But the findings are very consistent with most of the available literature (Wilson et al., 2001; Goldhaber and Brewer, 2000; Rivkin et al., 2002) that found little evidence on the association between student achievement and a number of teacher characteristics including teacher qualification.

To determine whether there were significant differences in fees paid in public and private secondary schools, a correlation analysis was performed. The results show that there is a strong positive relationship between fees paid in private and public secondary schools. The differences in fees are very significant. This was confirmed by the calculation of the probable error in correlation. The study therefore concludes that the private secondary schools charge higher fees than the public secondary schools.

To fulfill the third objective of determining whether the performance in private and public secondary schools is different, a trend analysis was first performed. The trend in public secondary schools showed that the performance has been steadily rising. The performance in private secondary schools was found to be lower than that of the public secondary schools. A further performance of the correlation analysis revealed that the differences in performance are not significant as the Pearson correlation was only 0.139. The correlation coefficient was also found to be 0.48 times the probable error in correlation.

Figure 4 Fees paid in public and private schools



The Pearson correlation coefficient in Table 8 below shows that there is a strong correlation between fees paid in public and private secondary schools. This is because the correlation coefficient of 0.985 shows that there is a strong positive relationship between fees paid in private and public secondary schools. The coefficient of correlation is 0.97 meaning that 97 percent variation in the dependent variable is explained by the change in the independent variable. The calculation of the probable error in the correlation shows that the correlation is 111 times the probable error in correlation. Thus, the correlation is significant.

Table 8 Correlation Between Fees Paid in Public and Private Secondary Schools

		Fees paid in private schools	Fees paid in public schools
Fees paid in private schools	Pearson Correlation	1	0.985
	Sig. (2-tailed)	.	0.002
	N	5	5
Fees paid in public schools	Pearson Correlation	0.985	1
	Sig. (2-tailed)	0.002	.
	N	5	5

** Correlation is significant at the 0.01 level (2-tailed).

5.2 Recommendations

The fees paid in public secondary schools were found to correlate within the performance of the schools. The study recommends that this phenomenon should not be the basis upon which the public secondary schools charge fees that are higher than the ones officially provided by the ministry. The Government needs to ensure that the public schools charge the fees that are recommended by the Government.

For private schools, since the study found out that the relationship between fees charged and performance is not significant, the attention of parents is drawn so as to question the exorbitant fees charged in private secondary schools. If the high fees cannot justify the performance of students in private schools, then the motive for such fees needs to be questioned. Normally, the private secondary schools charge higher fees on the pretence that the fees go into the upkeep of the students while in the schools and also to motivate the teachers financially so as to translate the motivation into better academic results in students. The study finds no such relationship hence recommends that the parents beware of this particular issue.

Basic teacher qualification was found to be enough for the schools to perform better. The schools with more teachers having higher qualifications were found not to perform better than those with teachers with basic qualifications necessary to teach in secondary schools. The study therefore recommends that the recent trend where teachers are going for further education to equip themselves with masters degrees be investigated to determine the motive of such teachers. Normally, the teachers with higher academic qualifications are paid higher than those with basic qualifications. The Government therefore needs to investigate the issue more keenly and change the reward system. The study recommends that the teachers' pay be pegged on performance and not on academic qualifications per se. If this condition is not checked, the Government will continue to spend heavily on teachers' salaries yet the performance of students remains the same or deteriorates. Currently, according to the study, teacher qualification is not reflected in student performance.

5.3 Limitations of Study

It was not easy getting data for schools fees paid in private secondary schools hence the study had to average using the few schools that provided their data. The study also used the official fees figures provided by the Ministry of Education. The fees that are actually charged in public secondary schools are not the official ones provided by the Ministry. Getting the actual fees charged in public secondary schools was not possible as the school heads feared releasing the real figures for fear of the consequences from the Ministry if the figures are found not to conform to the ones officially provided. Also, data for teacher qualification for private secondary schools was hard to get as they are usually not filed with TSC. The study therefore had to make use of the available data from the few private schools that gave out the data.

5.4 Areas for Further Research

As this study revealed that teacher qualification did not reflect in overall school performance, more studies should be done specifically to unravel whether this is true using another research methodology. This should involve classroom survey where the students are followed in particular subjects such as sciences and mathematics to find out whether more qualified teachers in a specific subject lead to better grades by students in the respective subjects.

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APPENDICES

Appendix 1 Secondary Schools within Nairobi Province

<u>SCHOOL</u>	<u>LOCATION</u>
Aquinas High School	Makadara
Buruburu Girls' Secondary	Makadara
Dandora Secondary	Embakasi
Eastleigh Secondary	Kamukunji
Embakasi Girls' Secondary	Embakasi
Highway Secondary	Makadara
Huruma Girls	Makadara
Jamhuri High School	Starehe
Kahawa Garrison	Kassarani
Kamiti High School	Kassarani
Kamukunji Secondary	Kamukunji
Kayole Secondary	Embakasi
Maina Wanjigi Secondary	Kamukunji
Moi Forces Academy	Kamukunji
Muhuri Muchiri Secondary	Embakasi
Muslim Girls'	Starehe
Ngara Girls' Secondary	Starehe
Nile Road Secondary	Makadara
Olala Jericho Secondary	Makadara
Our Lady of Fatima	Kassarani
Our Lady of Mercy School	Makadara
Pangani Girls'	Starehe
Parklands Arya Girls'	Starehe
Parklands Secondary	Starehe
Punwani Secondary	Starehe
Ruaraka Secondary	Kassarani
St. George's Girls'	Westlands
St. Teresa Boys'	Kamukunji

St. Teresa's Girls' School	Starehe
Starehe Boys Center (Tech Div)	Starehe
Starehe Boys Center (Sec Div)	Starehe
Uhuru Secondary	Kamukunji
Dagoretti High School	Dagoretti
H.H Aga Khan High	Westlands
Hospital Hill Secondary	Westlands
Kangemi High School	Westlands
Kenya High	Westlands
Lang'ata High School	Lang'ata
Lenana School	Lang'ata
Moi Nairobi Girls'	Lang'ata
Mutuini Secondary	Dagoretti
Nairobi Milimani Secondary	Westlands
Nairobi School	Westlands
Nembu Secondary	Dagoretti
Precious Blood Secondary	Dagoretti
Ruthimitu Girls' Secondary	Dagoretti
Ruthimitu Secondary	Dagoretti
State House Road	Westlands
Sunshine Secondary	Lang'ata
Upper Hill School	Lang'ata

PRIVATE SCHOOLS

Strathmore College
Loreto Convent Msongari
Loreto Convent Valley Rd
St. Mary's School
Queen of Apostles Seminary
Sharda High School
Arya Girls Sec. School

C.G.H.U. Girls School
Oshwal Boys' Sec. School
Khalsa Girls' Sec. School
Don Bosco Sec. School
City High School
Central High School
Visa Oshawal Girls' Sec. School
Parkroad Secondary School
Kennedy High School
Pan African Boys' School
Technical Institute
New Kenya Secondary School
St. Edward High School
Kenyan College
Raval's Secondary School
Avenue High School
St. Saviour School
Aga Khan Academy
Kayole Twilight
Arya Boys' Secondary School
S.S.D. Girls Secondary School
St. Mary's Girls' School
Lily Vision
Kariokor Secondary School
Wakulima Secondary School
R.G.S. Secondary School
Kianda High School
Shauri Moyo Harambee Secondary
Devonshire Secondary School
St. John's High School
Guru Nanak Secondary School

Pan African Girls' School
Karura S.D.A. Church School
Kabete approved
Church Army School
Cavina School
Braeburn High School
Premier Club Secondary School
Umoja Harambee Secondary School
Mountain View Secondary School
Hill Crest Secondary
Moi Educational Center
Buru Buru High School
Starehe Girls' Center
Our Lady of Fatima
Dandura Secondary

Appendix 2 Performance in Public Secondary Schools

School	2002	2003	2004	2005	2006
Starehe Boys Center	9.859	10.549	10.575	10.445	10.884
Precious Blood Girls	10.663	10.764	9.966	10.241	10.304
Sunshine Secondary	9.638	9.583	9.458	9.947	9.952
Pangani Girls	9.381	9.54	9.299	9.736	9.761
Kenya High School	8.99	9.242	9.515	9.929	9.74
Lenana School	8.684	8.386	8.525	9.218	9.612
Nairobi School	8.934	8.825	8.878	8.514	9.082
Moi Forces Academy	8.696	8.404	8.747	9.054	8.838
Buruburu Girls Secondary	8.088	8.165	8.386	7.993	8.634
St. George's Secondary	7.758	8.55	8.335	8.333	8.58
Upper Hill	7.84	6.964	7.774	7.845	8.567
Moi Girls School Nairobi	8.393	8.367	8.749	8.444	8.464
State House Girls	8.063	8.247	8.151	7.698	8.307
Ngara Girls	6.519	6.972	6.821	7.264	7.739
Dagoreti High School	7.222	7.668	7.661	7.669	7.411
Highway Secondary School	7.416	7.5	7.563	7.285	7.313
Muslim Girls Secondary	6.433	6.894	6	5.979	7.159
The Aga Khan High School	5.517	5.599	6.86	5.761	7.127
Eastleigh High	5.642	6.149	6.088	6.169	6.694
Aquinas High School	5.657	6.115	6.322	6.159	6.601
Jamhuri High School	5.857	5.506	6.633	6.318	6.5
Hospital Hill High School	5.523	6.022	6.226	6.07	6.378
Parklands Arya High School	4.757	5.308	5.295	5.72	6.321
St. Teresa's Girls Secondary	5.602	5.5	5.6	5.828	6.318
Our Lady of Fatima	5.447	5.015	5.025	5.349	5.798
Ofafa Jericho High	5.559	5.285	5.333	5.672	5.724
Pumwani secondary	4.18	4.607	4.119	5.109	5.664
Muhuri Muchiri Secondary	5.08	5.795	5.648	5.277	5.658
Kamiti Secondary	4.202	4.208	4.566	4.381	5.135
Huruma Girls	5.25	5.339	5.549	5.423	5.098
Nairobi Milimani Secondary	3.704	4.15	4.105	4.884	4.966
Parklands Secondary School	4.784	4.617	4.221	4.966	4.94
Dandora Secondary	4.679	4.756	4.416	4.729	4.84
Nembu High	4.054	4.298	4.143	4.892	4.81
Kayole Secondary	3.934	3.674	4.455	4.624	4.809
St. Teresa's Boys Secondary	4.219	4.065	4.034	4.575	4.721
Ruthimitu Girls Secondary	3.883	3.15	3.063	3.417	4.625
Kahawa Garrison					4.558
Nile Road Secondary	3.131	4.277	4.424	4.5	4.234
Maina Wanjigi	3.865	3.667	4.701	4.864	4.187
Uhuru Secondary	3.483	4.117	3.88	3.667	4.141
Ruaraka High	3.96	4.457	4.667	4.838	4.139
Kangemi High	3.587	3.863	4.291	4.44	4.127
Mutuini High	4.587	4.794	4.473	4.32	3.195

Embakasi Girls Secondary	4	3.5	4.25	3.962	3.703
Kamukunji Secondary	1.667	2.848	2.722	3.151	2.71
Lang'ata High School	4.839	4.736	4.967	4.463	5.029
Total	214.226	280.037	284.479	289.122	303.097
Average	5.835	5.958	6.053	6.152	6.449

PERFORMANCE OF PRIVATE SECONDARY SCHOOLS

	2002	2003	2004	2005	2006
Strathmore school	10.095	10.25	10.273	9.605	10.413
Kianda School	10.27	10.512	9.881	10.3	10.359
Loreto convent valley road	7.731	7.303	7.137	6.815	7.528
Queen of Apostles secondary	7.399	6.955	6.618	7.419	7.094
St. Mary's School Nairobi	6.032	6.333	6.079	6.611	6.936
Loreto Convent Msongari	6.606	6.814	6.462	6.344	6.571
Arya Girls	3.25	3.722	4.313	3.222	3.933
St. Mary's Academy	4.882	5.115	4.667	3.9	3.861
Don Bosco	3.265	3.506	4.089	3.253	3.683
Ayra Boys	4.333	4.348	4.476	4.478	3.636
Wakulima	3.47	3.464	3.338	3.182	3.412
Khalsa	4.176	4.879	3.864	3.69	3.389
Kenyan College	2.469	2.559	3.128	3.293	3.353
Kayole twilight		3.161	3.466	3.468	3.192
St. Edwards High	2.679	2.778	2.311	2.714	3.068
Sharda High	3.178	2.864	2.923	2.931	2.897
Lili Vision	2.777	2.933	3.672	3.149	2.862
RGS Secondary	3.18	3.409	3.256	2.745	2.693
Pan African High	2.148	2.154	3.294	2.478	2.541
St. Dominic Saviors	2.962	2.931	2.51	2.785	2.436
SSD Secondary	2.346	2.228	2.402	2.161	2.269
Total	93.248	98.218	98.159	94.543	96.126
Average	4.440	4.677	4.674	4.502	4.577

Appendix 3 Summary of Performance

Summary			
Performance in Public Schools			
Year	Mean Scores		
2002	5.835	4.44	
2003	5.958	4.677	
2004	6.053	4.674	
2005	6.152	4.502	
2006	6.449	4.577	
Performance in Private Schools			
Year	Mean Scores		
2002	4.44		
2003	4.677		
2004	4.674		
2005	4.502		
2006	4.577		

Appendix 4 Performance in Secondary Schools

Year	Fee Paid (KShs)		Performance in Mean Scores	
	Public	Private	Public	Private
2002	21100	34300	5.835	4.44
2003	22400	35400	5.958	4.677
2004	23300	36700	6.053	4.674
2005	24200	37900	6.152	4.502
2006	25200	40000	6.449	4.577

Appendix 5 Teacher Qualifications in Public Secondary Schools

	Masters	Bachelors	Diploma	A level	Others	Total	Mean	Performance score
Starehe Boys Center	4	44	7	0	0	55	3.95	10.884
Precious Blood Girls	4	12	5	0	0	21	3.95	10.304
Sunshine Secondary	0	38	10	0	0	48	3.79	9.952
Pangani Girls	3	28	7	0	0	38	3.89	9.761
Kenya High School	8	20	4	0	0	32	4.13	9.74
Lenana School	4	30	13	0	0	47	3.81	9.612
Nairobi School	5	27	9	0	0	41	3.9	9.082
Moi Forces Academy	2	28	10	0	0	40	3.8	8.838
Buruburu Girls Secondary	2	23	9	0	0	34	3.79	8.634
Upper Hill	1	23	8	0	0	32	3.78	8.567
State House Girls	7	25	3	3	2	40	3.8	8.307
Ngara Girls	3	26	6	0	0	35	3.91	7.739
Highway Secondary School	2	26	6	0	0	34	3.88	7.313
Muslim Girls Secondary	0	6	3	0	1	10	3.4	7.159
Eastleigh High	4	29	13	0	0	46	3.8	6.694
Aquinas High School	0	27	8	4	0	39	3.59	6.601
Jamhuri High School	4	39	20	0	1	64	3.7	6.5
Parklands Arya High School	0	20	5	1	0	26	3.73	6.321
St. Teresa's Girls Secondary	0	22	4	0	0	26	3.85	6.318
Our Lady of Fatima	4	23	5	0	0	32	3.97	5.798
Ofafa Jericho High	7	18	4	0	0	29	4.1	5.724
Pumwani secondary	1	31	2	0	0	34	3.97	5.664
Muhuri Muchiri Secondary	1	15	3	0	0	19	3.89	5.658
Kamiti	2	15	9	0	0	26	3.73	5.135

Secondary									
Huruma Girls	7	18	4	0	0	29	4.1	5.098	
Nairobi Milinani Secondary	0	14	6	0	0	20	3.7	4.966	
Parklands Secondary School	2	24	5	0	0	31	3.9	4.94	
Dandora Secondary	6	14	6	0	0	26	4	4.84	
Nembu High	2	8	7	1	1	19	3.47	4.81	
Kayole Secondary	1	14	6	0	0	21	3.76	4.809	
St. Teresa's Boys Secondary	3	15	9	0	0	27	3.78	4.721	
Ruthimitu Girls Secondary	1	9	3	1	0	14	3.71	4.625	
Kahawa Garrison	8	12	0	0	0	20	4.4	4.558	
Nile Road Secondary	4	11	4	0	0	19	4	4.234	
Maina Wanjigi	2	13	2	0	0	17	4	4.187	
Uhuru Secondary	4	14	4	0	0	22	4	4.141	
Ruaraka High	3	9	10	0	0	22	3.68	4.139	
Kangemi High	3	12	7	1	0	23	3.74	4.127	
Mutuini High	0	10	5	0	0	15	3.67	3.195	
Embakasi Girls Secondary	0	12	3	1	0	16	3.69	3.703	
Kamukunji Secondary	0	12	6	0	0	18	3.67	2.71	
Average							3.84		