AN ANALYSIS OF THE RELATIONSHIP BETWEEN EXAMINATION PERFORMANCE, TEACHER QUALIFICATION AND THE AMOUNT OF FEES PAID IN SECONDARY SCHOOLS IN KENYA. (A CASE STUDY OF SCHOOLS IN EASTLANDS NAIROBI)

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Abstract

This paper is an extract from my Masters in Business Administration thesis which was a descriptive survey designed with the first objective been to determine whether teacher qualification and fees paid 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 and the third objective was to determine whether there is a significant difference between performance in public and private secondary schools. 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 difference in performance of private and public secondary schools was also found to be statistically significant. These results have important implications for schools and the policy makers in the education sector.

Keywords: Secondary School, School Fees, Teacher Qualification, School Performance, public school, private school

1. Introduction

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 labor 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.
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.

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. 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.

2. Research Objectives

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.

2.1 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.

3. Literature Review

3.1 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.

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.

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; Oucho, 2002; Oyugi, 2000).

3.2 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.
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.
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.

### 3.3 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 (Laczko-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).

### 3.4 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. 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.

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.

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. 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.

3.5 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.

Wenglisnky (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.

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.

### 3.6 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. 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. Interestingly, in his study of high school mathematics and science teachers, Monk (1994) found that teacher experience had no effect on student performance.

### 3.7 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. 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.

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.

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.

4. Data Analysis And Findings

4.1 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.

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. The trend in Figure 2 below seems to suggest that the schools charging between KShs. 36,000 and KShs 38,000 show low performance rates. 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
Much of the variation in the performance of private secondary schools is as a result of other factors other than the fees charged.

### 4.2 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.
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 master’s 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 study therefore reveals that teacher qualification is not an important factor in determining the academic performance of a secondary school.

4.3 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 4. 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 2005 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.
The summary presented in Figure 7 below reveals that public schools have been performing better than the private ones over the years.

**Figure 5. Performance in Private Schools**

**Figure 6. Performance in Public and Private Secondary Schools**
5. Conclusion

Trend analysis indicates that School fee is directly proportional to performance for public schools. For private school the same is replicated up to a certain amount of fees paid, the trend changes. The influence of teacher qualification beyond the minimum required (diploma) on performance is not significant. Whereas it’s better to have undergraduate degree holders teaching at secondary schools as compared to having diploma teachers, it is possibly counterproductive to have teachers with post graduate qualifications in Secondary Schools.

Public secondary school performance has improved over the years. This is not so for private Secondary Schools whose performance has not been steady.

There is no significant difference in fees paid in Public Secondary Schools compared to fees paid to private Secondary Schools. However, performance presents a different picture, where public Secondary Schools perform better than private Secondary Schools.

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