Perceived Contribution of School Learning Resources to Students’ Examination Scores. A Case of Selected Top Extra County Secondary Schools in Nyanza Province, Kenya

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Perceived Contribution of School Learning Resources to Students’ Examination Scores. A Case of Selected Top Extra County Secondary Schools in Nyanza Province, Kenya

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Abstract

School learning resources are arguably one of the most important influencers of students’ scores in national examinations and hence affect each individual school’s effectiveness. It had been pointed out by the Nyanza Provincial Education Board that the province’s performance in examinations and the quality of education in general is unsatisfactory and inadequate. A confidential document entitled the State of Education in Nyanza Province points out factors such as inadequate physical facilities, as one of the factors impacting negatively on school performance in the province. The study sought to investigate the perceived contribution of school learning resources on students’ scores. The study adopted the Theory of Organisational Climate which defines organisational climate as the human environment within which an organization’s employees do their work. Across sectional survey design was used. Purposive sampling was used to identify the four schools under study and form three students. Simple random sampling was used to select the respondents of the study. A sample size of 197 respondents was used (49 teachers and 148 students). The analyzed data was both qualitative and quantitative using descriptive statistics in particular percentages and means. The study found that learning resources were fairly adequate and very important in fostering students’ academic achievements. The study recommends parents be fully involved and be persuaded to support the school management to ensure that they provide the school basic needs like textbooks to help improve the student textbook ratio.

Background of the study

School effectiveness is regarded as the extent to which a set of school goals is achieved. These goals may be passes examinations or excellence in co-curriculum activities. It is a reflection of something being done well in a school (Australian government, 2004). It is a little more complex to measure the extent to which a school achieves its goals. This measurement is compounded by the diversity of a school’s goals. An examination of the goals of a school, as might be listed in their mission statements, shows that they try to accomplish many things; developing students’ academic potential, they may give students an awareness of different cultures, prepare them for university entrance, enhance their understanding of environmental issues develop their civic responsibilities and help them become positive private members of society.

Griffith (2002) argues that no education system can hope to achieve satisfactory results without investing in the inputs that are essential for education in a modern environment. These include: Material resources- classrooms, school facilities, libraries, textbooks and other learning materials and human resources such as education managers, supervisors and teachers.

Lockheed and Verspoor (1991) report that although buildings, furniture and equipment accounted for nearly 30% of aid for primary education for the period 1981-1983 in developing countries, there is little evidence of the effects of school physical facilities. It is however argued that countries have their different priorities. While some prioritise providing textbooks, others regard upgrading the school plant as the most important.
A study conducted by Mwamwenda & Mwamwenda (1987) found out that in Botswana, availability of classrooms, desks, seats and books produce significantly better performance in standard seven examinations.

Lockhead and Verspoor (1991) argued that their findings support the argument that school facilities are integral to academic achievement. Both studies have no mention of the value-adding element, this finding contrasts with other studies carried out in the West which reported that school facilities have no impact on pupils’ achievements.

In Nigerian primary schools, Urwick & Junaidu (1991) conducted a qualitative study which established that there exist multiple links between the quality of school facilities and a number of process variables regarded to be important determinants of quality schooling. For instance, they found that four aspects of teaching are critical to fostering quality: - The extent to which teaching methods were pupil centred, the variety of activities organised during lessons, the variety of methods of communication used during lessons and the frequency with which assignments and homework were set was all affected by provision of textbooks, teaching aids, writing materials and furniture.

In addition to teaching aspects cited above, the study also noted classroom learning conditions such as time required for learning activities to take place, orderliness and ease of movement in the classroom, pupil attentiveness, and pupils’ opportunities for developing reading and writing skills. These were found to be affected by many aspects of school facilities: - first aid, toilets, water supply, classroom maintenance, textbooks, furniture availability and space. In Kenya, the critical role played by teaching and learning materials is summed up by the government while articulating vision twenty thirty that in order to improve the productivity and competitiveness of Kenya’s Human resource pool, all students will be provided with a better learning environment including improved teaching skills and more textbooks (GOK 2007). The vision pledges to reduce the pupil ratio from 1:3 to 1:11 in order to provide learners with opportunities to exploit their potential to the fullest (G.O.K, 2007).

Research in South Africa has found that disadvantaged schools have a double negative, which means that in addition to being disadvantaged in terms of inputs, they also disadvantage students from all income groups (Imbewu, 2007). It was noted that children in poor schools across all income groups performed much worse than children in less disadvantaged schools. This implies that physical facilities have a critical impact on student achievement. These South African studies however do not highlight or focus on the impact of these facilities on student’s scores on entry into the school vis-à-vis the value-added in the course of their high school course. The study nonetheless underscores the importance of targeting the most disadvantaged schools in regard to allocation of scarce educational inputs. This will achieve a much greater impact and will be spread across all students.

In Papua New Guinea, Vulliamy (1987) found quantitative evidence of the existence of school effects on secondary school examination results. One of the most significant factors identified is the provision of basic facilities such as water and electricity. Other factors which the study identified as critical in determining students’ examination results are quality of teaching, style of school administration, extra assistance to weak students and levels of staff morale.

Methodology

This study adopted a cross sectional survey research design. A survey is a non-experimental descriptive research method that is useful for collection data that is not easily observed such as options or perception (Babbie 1973). The basic idea behind survey methodology is to measure variables and examine relationships among variables. Surveys most of the time, try to capture attitudes and past behaviour (Babbie 1990). This study selected four high ranked or top provincial secondary schools (currently referred to as Extra County Schools) in Nyanza in K.C.S.E., 2008. The schools had been grouped into three: top, medium and bottom. Top schools were schools that were ranked high in K.C.S.E. 2008 i.e. scored 7.500 and above (out of the possible twelve points) in 2008 K.C.S.E. There are thirty-four schools in this category. Medium schools were schools ranked average i.e. schools that scored 5.000-7.499 in 2008 K.C.S.E. Bottom schools were schools ranked low i.e. those that scored mean score of 4.999 and below in 2008 K.C.S.E. The schools were also selected in such a way that they bear similar background and characteristics for instance, date of establishment, spiritual sponsorship, size of intake, characteristics of students’ entry mark, students’ sex. The four schools (25percent) were purposively selected out of the sixteen (16) provincial (extra county) schools ranked 5top (above 7,500 mean score in 2008 KCSE examination) as shown in the table Number and below:

Gay (2006) proposed that the sample of 10-30 percent is sufficient to be used as representative of the
population. A sample size of 18% was selected from the form three class of 2009 for questionnaire and another 18% for interview. The sample size of 18% which is above mid the range was considered large enough to be representative given the largeness of the class and for manageability of data. For teachers a sample size of 32% was drawn from the teaching staff of each of the four schools under study. The teaching staff is relatively smaller and a higher percentage of the sample was considered representative enough and to take care of a possible non-response rate which in the case of the study was minimal. Form three students were chosen to be the study’s focus group because they were regarded the most knowledgeable and mature group after from fours whom the study decided to exclude owing to the busy third tern schedule as they prepared for their national examinations.

Data Analysis
Data analysis was both qualitative and quantitative. In quantitative data, the researcher used descriptive research analysis techniques which included frequency, percentages, means and graphs. This study employed these statistical techniques which Olatukunho (2004) describes as the most suitable for analysis of descriptive research data. Descriptive statistics were suitable for use in this study owing to the fact that case study and survey designs generate quantitative data that is analysed by percentages, means, pie-charts and bar-graphs. In addition, Likert scale rating on a five or six-point rating. Interpretations were mainly based on mean and standard deviation

Results and Discussion
The objective of the paper was to identify the perceived relationship between books and students’ examination scores. The study analysed this objective using findings from both students and teachers from the four selected provincial schools (currently referred to as Extra County Schools) in Nyanza Province. The researcher opted to measure this objectives using respondents’ information rather than observing and counting the text books available in the school because observation would have required more time since the exercise would have involved recalling text books and counting them. Furthermore, the study focussed on perceptions and therefore respondents’ views were the most suitable focus for measuring the variable. The researcher looked at various variables: the average number of students sharing a text book, the perceived importance of text books, and the average class size. These variables were measured for both teacher and student respondents. Thus, the study findings have been presented in two sections; students’ and teachers’ views on the state of text books.

According to Griffith (2002) no education system can hope to achieve satisfactory results without investing in the inputs that are essential for education in a modern environment. These essential education inputs include; school learning resources- classrooms, school facilities, libraries, textbooks and other learning materials and human resources such as education managers, supervisors and teachers. Thus, school learning materials are very important in assisting students get high examination scores. This study focuses on text books and no other resources.

Students Responses on the State of School Text Books
The Average Number of students sharing a Text Book
The books are regarded an important teaching/learning resource owing to the fact that they are the couriers of the syllabus content. They therefore provide an extra explanation to concepts that a teacher may have omitted, contains exercises to be completed by students for marking (like English and Kiswahili Languages and Mathematics) and more so, they enable students to learn ahead of their teachers which might be of help especially when a teacher is unable to cover the curriculum in time. The number of students sharing a textbook determines the effectiveness of learning in a particular school. This is what is commonly referred to as student to text book ratio. As a result, the study sought to establish the average number of students sharing textbook. This information is summarised in the table 1 below: -
Findings from table 1 indicate that 13 (40%) of them said that the average number of students sharing a textbook was two. However, 10 (31.3%) said that three students shared a textbook while 8 (25%) said that the number of students sharing a textbook in Ng’iya Girls were was four students. Only one respondent said that six students shared a textbook in Ng’iya Gils High School. Thus, it is clear that 19 (59.40%) indicated that the number of students sharing a textbook was three and above.

With regard to the number of students sharing a textbook in Kisumu High, it was established that 18 (15.4%) of the respondents said that three students shared a textbook. Furthermore 11 (28.2%) said two students shared a textbook while 6 (15.4) said four students shared a textbook while 3 (7.7%) said five students shared a textbook in their school on average. As a result, it was established that 71.8% of the respondents and who are the majority argued that three students said above from their school shared a textbook.

Finally, findings from St. Mary’s Yala, suggested that 18 (60%) of the respondents said two students shared a textbook while 12(40%) said that three students shared a textbook, thus, compared to other three schools under study, St, Mary’s Yala is more effective in terms of student/textbook ratio.

In conclusion, findings from the four selected schools in relation to the number of students sharing a textbook, it was established that majority of the respondents from Ng’iya Girls High School (59.4%), Kisumu Boys High (47.3%) and Kisumu Girls High (71.8%) acknowledged that three students and above from their school shared a textbook. However, majority (60%) of the respondents from St. Mary’s Yala argued that two students shared a textbook. This therefore implies that the average number of students sharing a textbook above schools except St. Mary’s Yala is high and therefore the schools’ academic achievements may be affected. The average number of students sharing a textbook should not exceed two students. This ratio ensures that the chances of a student getting a textbook from the school library are high hence improving academic performance.

Table 2: Importance of Buildings in the in Relation to Students’ Achievement in National Examinations

<table>
<thead>
<tr>
<th>Importance of School Buildings in Fostering Student Achievement in the National Examination</th>
<th>Ng’iya Girls</th>
<th>Kisumu Boys</th>
<th>Kisumu Girls</th>
<th>St. Mary’s Yala</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
</tr>
<tr>
<td>Very Important</td>
<td>29</td>
<td>90.6</td>
<td>45</td>
<td>95.7</td>
</tr>
<tr>
<td>Important</td>
<td>2</td>
<td>6.3</td>
<td>2</td>
<td>4.3</td>
</tr>
<tr>
<td>Fairly Important</td>
<td>1</td>
<td>3.1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100</td>
<td>47</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Survey data, 2010

From table 2, in relation to the importance of school buildings in fostering students’ academic performance, it was established that in Ng’iya Girls, 13 (40.6%) of the respondents said that school buildings are important in fostering students’ academic performance, 31.3% (10) said that buildings are very important while 6 (18.8%) said that they are fairly important. However, only 3 (9.4%) of the respondents argued that the school buildings are not important in
fostering students’ academic performance. In summary, findings from Ng’iya suggest that 23 (71.9%) of the respondents and who are the majority agreed that school buildings are important in fostering students’ academic performance. In Kisumu Boys High School, it was established that 27 (57.4%) of the respondents said that the school buildings are very important in fostering students’ academic performance, 14 (29.8%) said that they are important while 6 (12.8%) of the respondents said that the school buildings are fairly important in fostering students’ academic performance. This therefore confirms that 4 (87.2%) of the respondents from Kisumu Boys acknowledges the importance of school buildings in fostering students’ academic performance.

Findings from Kisumu Girls High School in table 4.39 above indicates that 59% (23) of the respondents said that school buildings are very important in fostering students’ academic performance, 30.8% (12) said that they are important while 10.2% (4) of the respondents said that the school buildings are fairly important in fostering students’ academic performance. As it is with Kisumu Boys High, 89.8% (35) who are the majority of the respondents from Kisumu Girls recognises the importance of school buildings in fostering students’ academic performance. In St. Mary’s Yala, it was established that 56.7% (17) of the respondents said that school buildings are important in fostering students’ academic performance, 36.7% (11) said that school buildings are very important while only 6.6% (2) said that they are fairly important. As a result, majority, 93.4% (28) of the respondents regards their school buildings as being important in fostering students’ academic performance.

In conclusion, it is strongly suggested that buildings in the school are critically important in fostering students’ academic performance as stated by majority of the respondents from all the four provincial schools under study. As it was earlier stated by Lockheed and Verspoor (1991) that school facilities which includes school buildings are integral to students’ academic achievement. Furthermore, a study conducted by Mwamwenda & Mwamwenda (1987) found out that in Botswana, availability of classrooms and desks produce significantly better performance in the examinations.

**The Average Class Size**

Having a small or medium class size in each stream implies the delivery of quality education and effective learning as teachers will be in a position to reach each student and be able to analyze their weakness and strength thus, providing valuable assistance to students which is a key determinant to obtaining excellent results in the national examination. Following this premise, the study sought to determine the average class size of the respondents. Study findings summary from the four selected provincial schools are shown in table 3 below:

<table>
<thead>
<tr>
<th>Table 3: The Average Class Size</th>
<th>Ng’iya Girls</th>
<th>Kisumu Boys</th>
<th>Kisumu Girls</th>
<th>St. Mary’s Yala</th>
</tr>
</thead>
<tbody>
<tr>
<td>41-50 Freq</td>
<td>32</td>
<td>38</td>
<td>27</td>
<td>30</td>
</tr>
<tr>
<td>%</td>
<td>100</td>
<td>80.9</td>
<td>69.2</td>
<td>100</td>
</tr>
<tr>
<td>Above 50 Total</td>
<td>32</td>
<td>47</td>
<td>100</td>
<td>30</td>
</tr>
<tr>
<td>%</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: survey data, 2010

In relation to the average class size, it was established that all respondents from Ng’iya Girls and St. Mary’s Yala said that the number of students in a class was 41-50 students. On the other hand, findings from Kisumu Boys High School suggested that 80.9% (38) of the respondents said that the average class size was 41-50 students while 19.1% (9) said that the average class size was above 50 students. Furthermore, findings from Kisumu Girls high school indicate that examinations indicates that 27 (69.2%) of the respondents said that the average class size was 41-50 students while 12 (30.8%) said that the average class size was above 50 students. This implies that in some cases the class size is above average which is ineffective for a teacher to have full control of it.

In conclusion, it was established that the average class size for all the four schools under study was 41-50 students. However, classes with a large number of students are cumbersome to teachers especially when marking assignments. This tends to overwork teachers thus, reducing their efficiency to teach well. The above findings clearly suggested that in St. Mary’s Yala, textbooks/students ratio was fairly average; other schools seem to have inadequate textbooks creating a
In relation to the significance of textbooks in the school in relation to students’ achievement in national examination, it was established that from Ng’iya Girls, 7 (63.6%) of the respondents said that textbooks were critical to students’ achievement, 18.2% said that textbook were very critical while a further 2 (18.2%) argued that textbooks were fairly critical to students’ achievement in the national examination. Thus, in summary, majority 81.8% (9) of the respondents agreed that textbooks are critical in determining students’ achievement in the national examination. Findings from Kisumu Boys High in relation to the significance of textbooks in the school to students’ achievement in national examination, it was established that 6 (54.5%) of the respondents agreed that textbooks are very critical towards students’ achievement in the national examination, 4 (36.4%) said that textbooks are critical while 1 (9.1%) said that textbook were not critical. In summary, from Kisumu Boys High, it is clear that majority 10 (90.9%) of the respondents agreed that textbooks are critical in determining students’ achievement in the national examination.

In Kisumu Girls High, it was established that 7 (50%) of the respondents agreed that textbooks are very critical towards students’ achievement in the national examination, 6 (42.9%) said that textbooks are critical towards students’ achievement while 1 (7.1%) said that textbook were fairly critical. As a result, it is clear that majority, 13 (92.9%) of the respondents acknowledged the critical aspect of textbooks in relation to students’ achievement in the national examination. On the other hand, findings from St. Mary’s Yala indicates that 6 (54.4%) of the respondents agreed that textbooks are critical towards students’ achievement, 4 (36.4%) said that textbooks are critical towards students’ achievement while 1 (9.1%) said that textbook were fairly critical. Similar to other findings from three schools, majority 11 (90.9%) of the respondents from St. Mary’s Yala agreed that textbooks are critical in determining students’ achievement in the national examination.

In conclusion, from the above findings, it is clear that majority of the respondents from all the four selected provincial schools acknowledged the value attached to textbooks in relation to the students’ achievement in national examination and therefore, said that textbooks are critical to students’ achievement. Furthermore, the study findings for teachers in relation to the significance of textbooks with regard to students’ achievement in national examinations coincide with those of students’ findings on the same variable where majority said that textbooks are important.

**Conclusion and Recommendation**

This paper concludes that textbooks are adequate in top provincial (extra county) Secondary Schools in Nyanza province hence contributing greatly to students’ performance in national examinations. School learning resources for instance buildings and textbooks are very vital to students’ academic achievements. Adequate school buildings ensure that there is no overcrowding of students thus fostering the element of comfort and one’s feeling of securing. Adequate textbooks enable each student to finish assignments in time and similarly use the same for private studies. It was established that the average class size 41-50 students which is the recommended size by the Ministry of Education.

The paper further recommended that there is need for parents to be fully involved and support the school management to ensure that they provide the school basic needs like textbooks and buildings to help boost
the effectiveness of teaching and learning programmes and hence students’ examination scores.

References


