

Influence of Instructional Materials Usage on Academic Performance in Secondary Schools in Webuye West Sub-County, Bungoma County

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Abstract

It emerges that most parents in Webuye West Sub-County, Bungoma County are poor and therefore unable to meet their cost-sharing part. Consequently, their children lack some of the basic instructional materials. As a result the study seeks to find out the influence of the selection of these materials on the academic performance of secondary schools in Webuye West Sub-County, Bungoma County. The study employed the education production function (EPF) as its theoretical framework. This (EPF) postulates that inputs determine the output of an education system. The research design adopted in this study was descriptive survey in which the researchers went in the field to collect data directly. The target population in this study was school principals, teachers, and students. Webuye West Sub-County, Bungoma County has a total of 36 public secondary schools, 36 principals, 340 teachers and 5230 students. The sample size in this study was 11 secondary schools, which were selected through simple random technique; 16 principals who were purposively selected from the sampled schools; 102 teachers who were purposively selected from the sampled schools, and 1569 students randomly selected from the sampled schools. Data collection involved the use of questionnaires, interview and document analysis. The analysis of data in this study was descriptive in nature. Data is presented in tables with emphasis to frequencies and percentages. Students in schools where resource shortages made minimal impact on instruction, according to their principals, had similar academic achievement to students in schools where principals felt that resource shortages made a moderate impact on instruction. The pattern of little difference in achievement, although not observed across all countries, was observed in many of the high-performing and English-speaking countries. As with academic, the effect resource shortages had on a school's capacity to provide education in Bungoma West Sub-County varied across decile groupings and school sizes, but in contrast with academic, there were no variations when major urban schools were compared to schools in other locations.

Keywords: learners, teachers, stakeholders, instructional materials, performance.

Background to the Study

Instructional Materials play a vital role in the implementation of any educational programme. Instructional materials carry the content of an educational programme. However, over the years the provision of instructional materials in many countries has been financially

challenging. At one point in Kenya it gave rise to the concept of cost sharing in the provision of education in terms of instruction materials.

According to KESSP, the rationale for the heavy investments in text books and other instructional materials by the government includes the following: provision of textbooks for both students and teachers as key tools for attainment of quality education; enabling teachers to deliver the curriculum using appropriate reference books for preparation of their lessons; enabling students to study on their own and to do their homework at home using textbooks; enabling children to spend more time in school learning since they will not be sent home to buy textbooks; ensuring that all children in public secondary schools have textbooks irrespective of their geographical location or parents' economic ability; addressing issues of poverty alleviation by enabling students to acquire knowledge, skills and attitudes in preparation for the world of work; improving students' access to education, performance and retention by ensuring adequate and sustained supply of textbooks and instructional materials as well as provision of funds for running schools; Therefore, through FPE the government will move towards the realization of the Millenium Development Goals (MDG), of having all children throughout Kenya complete the full course of secondary schooling by 2015.

Learning materials across materials USA and Britain helps students in the acquisition of new knowledge, ideas, skills, values and experiences which enable the individual to modify and or alter his actions (NTI Manual, 2006). In Asian countries Learning is a gradual process and presenting any learning concept to learners must be done to appeal to students of varied interests and abilities, moving from the known to the unknown and encouraging active class participation. In developed Countries the teacher cannot be said to have achieved his instructional objectives until there is the desired change in the student's behaviour. Effective teaching and learning require a teacher to teach the students with instructional materials and use practical activities to make learning more vivid, logical, realistic and pragmatic (Akinleye, 2010). The teacher is therefore expected to use all within his/her reach to make the learner learn by using instructional materials.

According to Education International Conference (2010) For realization of good performance in a school, instructional resources must be put in place and used effectively in classroom practice. Todaro (2015) noted that the formal education system of a nation is the principal institutional mechanism used for developing human skills and knowledge. Education is, therefore, viewed as an indispensable catalyst that strongly influences the development and economic fortunes of a nation and the quality of life of its people. In this context, nations, organizations and individuals spend huge sums on the provision and consumption of education for the citizen. In many developing countries formal education is the largest industry and greatest consumer of public revenues (Todaro, 2015)

China Continent allows students to have relatively uniform attention and opportunities to practice and acquire skills. They make teaching experiences flexible and rich enough to meet individual students learning styles. Using modern technology, Students are able to use a combination of sense (smell, hearing, touch, taste and sight) for easier and better acquisition of concepts and facts they are being taught. Instructional materials enable students to see as a

whole certain relationships that are difficult to conceptualize in parts. For instance students learn to identify and differentiate the shapes more accurately when they see the real shapes. It allows them to compare and contrast the shapes and make a mental note of their similarities and differences. The learning of certain concepts would simply have eluded the learner if not for the use of instructional materials which provide meaningful vicarious experiences. By the means of instructional resources, students could learn about things too dangerous, too small or not just expedient to bring to the classroom. For example, a Lion or a waterfall or a mountain. Any of these can be effectively taught to the students in the classroom by the use of appropriate instructional materials. (Omojuwa, 2000).

The priority of all countries, especially the developing ones, is to improve the quality of schools and the achievement of student's (De Grauwe, 2001) since learning outcomes depend largely on the quality of education being offered (Barro, 2006). Barro further noted that higher quality education fosters economic growth and development. Appropriate use of instructional resources is important factor or component during the implementation of curriculum which helps the implementers to realize their goals and guide them in the teaching-learning process in the classroom practice (Shiundu and Omulando, 1992). This factor is one of the most important ingredients that help the school systems to achieve their objectives and realization of good student academic performance in examinations. Education has been described as an important determinant of upward social mobility and eligibility for employment within the modern sector. Internationally, student's' scores in examination have been accepted and used as a proxy of achievements. Deolalikar (1999) argued that, the most important manifestation of schooling quality are literacy, measurable cognitive abilities and observable student's' academic performance.

Evidence from the World Bank and other international organizations on the quality of learning in the developing countries pointed out the importance of certain school inputs. Some of the inputs include teachers, classroom size and its environment, instructional materials such as textbooks and other reading materials as well as school buildings and facilities (Eshwani, 1996). The Kenya government policy also entails allowing a broad based participation in the provision of education with all the stakeholders taking responsibility for planning and implementation. In line with this policy direction is the decentralization of decision making and resource management to lower level structures with Ministry of Education (MOEST, 2008). In addition inadequate resources among others have led to poor services hence undesirable performance in Kenya Certification of Secondary Curriculum Education (KCSE) in public Secondary Curriculum schools. The teacher resource is one of the most important inputs to education system. Being focus of classroom instructional activities and curriculum delivery, teachers are critical determinants of the quality education offered. Teacher's effectiveness at all levels of education has an implication on student's' academic performance (Okumbe, 2001).

In sub-Saharan Africa Students' active participation in the classroom depends much on teacher's method of teaching, but most of the time, what the teacher need to commit students to achieve quality education, lifelong and meaningful learning might not all that be available.

This is in line with the statement of Okwo and Eze (2013) that naturally, it is not possible at every point in time to have all it takes to achieve a set goal in human endeavour. This informed the idea of making and using available local resources for the shortfall to ensure that teaching and learning progress simultaneously without hinges. The available local resources in the absence of the resources are referred to as improvisation.

In study carried out in Nigeria by Eze (2012), he publicises that Improvisation is the use of local resources in our environment to assist in the smooth dissemination and transfer of knowledge from teachers to students. Abbot cited in Eze (2012) defines improvisation as making of substances from local material found at home or school premises when the real or original materials are not available. According to Bajah (2000), improvisation is the act of using alternative materials and resources due to lack or insufficiency of some specific first hand teaching aids to facilitate instruction. To Bromide (2000), improvisation is an act of using materials and equipment obtainable from local environment, or designed by the teacher or with the help of local resource personnel to enhance effective instruction. Improvisation appeals to the three educational domains the cognitive, affective and psychomotor domains respectively. Improvisation has become imperative in teaching and learning generally including CRS because the economic situation has made it difficult for teachers, school management and government to purchase the required resources to achieve the specific instructional objective. But the truth remains that the instructional materials generally are needed to aid the teacher's oral explanation to the students in teaching and learning process.

In Nigeria for instance, Education consists of two components, Input and Output. According to Comb, inputs consist of human and material resources and outputs are goods and outcomes of the educational process. Both the inputs and outputs form a dynamic organic whole and if one wants to investigate and assess the educational system in order to improve its performance effects of one component on the other must be examined. It is on this note that, the researcher wants to examine and assess the effects of instructional materials on academic performance of public secondary schools, (Fafunwa, 2004).

As for the national exams, the report recommends incorporation of continuous assessment tests in determining learners' abilities. Using one set of examinations, which are done within a context, was faulted for not providing an accurate gauge of learners' knowledge and experience. A World Bank Review (1995) on priorities and strategies for education Stated that the quality of education is defined by student outcomes. According to the review report, a wide variety of policies and inputs, tailored to specific conditions, can bring about effective schooling. And although resource availability certainly affects quality, educational research and experience show that public sector policies and investments can influence the quality of education.

The foregoing discussion indicates that instructional materials are crucial in the attainment of education goals. Despite the government's initiative of providing instructional materials to both primary and secondary schools there is still a deficit as a result of the high number of learners enrolled. The study therefore investigated the influence of usage of instructional materials on academic performance of secondary schools in Webuye West Sub-County,

Bungoma County. The schools in this sub-county did not do very well in national examinations in the last three years.

Statement of the Problem

The government's intention was to attain the ratio of 1:1 in terms of text books to every student. This target has not been achieved. The books purchased by the government in secondary schools are sometimes not to the standard of the syllabus requirement. This stems from the ministry of education's demand that schools order text books as per the Orange Book list. The government does not provide funds for the replacement of worn out instructional materials and lost ones. There is an indication, therefore, for availability of instructional materials in our schools. The parents in public secondary schools are involved in cost sharing in the provision of instructional materials by buying geometrical sets, dictionaries, calculators, atlas, pens, pencil and mathematical tables among others as the government provides text books, reference books, laboratory equipment, chalk, dusters, exercise books, and charts (KIE, 2010). It emerges that most parents in Webuye West Sub-County, Bungoma County are poor and therefore unable to meet their cost-sharing part. Consequently, their children lack some of the basic instructional materials (SCEO's office, Webuye West Sub-County, 2017).

Literature Review

Income countries show that the books have a positive impact on student achievement (Fuller and Clarke, 1994). New technologies such as computers are also seen to improve student achievement and attitudes at all levels of learning (Thompson, Simonson and Hargrave, 1992).

Fuller (1986) notes that greater availability of textbooks and reading materials raises the quality of learning activities and consequently increased achievement. In Nicaragua, Jamison et al (1974) found out that students who receive text books scored 4% higher in academic in post-test. It is worth noting that the accuracy of such an experiment highly depends on the ability to control the influence of the intervening variables that are likely to arise between pre-test and post-test moments

Furthermore, Heyneman and Jamison (1974) note that textbook availability had strong influence on achievement in English among secondary schools in Uganda. Muya (1987) in a newspaper article postulated that a functional (well-equipped) library provides opportunity for learners to benefit from a wide range of reading and diverse ideas that boost their academic performance. In another newspaper article, Eshiwani (1987) concurs with Muya by observing that schools which appear in the top-ten in national examination, have adequate text books. In 1988, Eshiwani further reported that there was a significant relationship between use and presence of text books.

According to Emiliana Vega and Jenny Petrow (World Bank, 2007), acknowledging the significance of student performance be it in a secondary school setting or any other type of

learning institution is only the first step toward improving it. The real challenge lies in understanding how students' performance is achieved and identifying policies that can improve it. Performance according to the two authors, hinges on pyramid factors that can touch on seemingly unrelated variables.

The presence of teaching/learning facilities therefore are not influential in realizing a good performance but school text books, laboratories, libraries etc are prime in academics. The kind of text books available for use in school should be relevant to the syllabus of the level in question. The laboratories found in secondary schools should be functional. They should be well equipped with necessary equipment as deemed fit by various academic subjects. A well-equipped library should have enough reading and reference materials in all subjects offered by the school as stipulated in the secondary school curriculum.

The authors further reckon that historically, education policy has focused on providing easy inputs such as money, infrastructure and text books to school and systems. This approach is popular because such inputs can be tracked and controlled relatively easily and are often highly visible. However, improving educational inputs according to Emilian and Petrow (World Bank, 2007) does not necessarily guarantee that performance will be good. The easy-to-measure resources may have small influences on student achievement. At independence in 1963 the many new government institutions included the book-publishing parastatals, the Jomo Kenyatta Foundation and the Kenya Literature Bureau. Many schools were started countrywide. The book market became quite viable, and the existing multinational agents registered their firms to become private publishers. Among the first private publishers in the country were Oxford University Press, Heinemann and Macmillan. This was the nemesis of the sometimes bitter disagreements between private publishers and the parastatals. Inevitably, the Ministry of Education could not be left out of the dispute for long. But instead of coming in as a referee it came in as a player, worsening an already volatile situation. For reasons that could not exclude financial gains, the Ministry discredited the material from private publishers as expensive and irrelevant to the school situation in Kenya. It went a step further and started the centralized supply of books to schools via the Kenya School Equipment Scheme (KSES). In collaboration with the Kenya Institute of Education (KIE), whose mandate was curriculum development and the vetting and recommending of books, KSES generated order lists which it distributed to schools via the DEBs. Schools then selected the books they wanted from these lists and the KSES supplied them with the titles requested. Positively, a book on the list brought in huge orders, hence large print-runs and low unit prices. But on the other hand the stage was set for massive corruption as publishers clamored to have their books in the order lists. This and other inhibiting factors in KSES's operations led to the scheme becoming moribund. However, what is seen in the current Orange Book list is a replica of what happened in history in that books are forced upon learners and teachers without the latter's participation in selection as curriculum implementers on the ground.

Come the early 1980s KSES was replaced by a cost-sharing policy in school resources acquisition. Here, the governments as well as the parents were to contribute to a school's resource-buying kitty.

In 1983 things took a turn for the worse, when the government abruptly changed the structure of education, introducing the 8-4-4 system of education. This sudden change of policy rendered nearly all the textbooks irrelevant. Survival instincts and business sense dictated that the publishers repackage the old titles between new covers, a move that did not go down well with the government. This resulted in the Ministry of Education mandating the KIE to write books. The institution organized writing workshops, which basically involved bringing together teachers with no prior training or experience in writing, with the instruction to 'produce a manuscript' for a certain subject within a stipulated time. The manuscripts so produced were passed on to public publishing houses with the instruction to 'produce a book', and this in record time.

These books were ultimately to become the official textbooks for schools. Books from private publishers were relegated to supplementary material or teacher reference. As a result, publishing in Kenya as a business lost its attraction. Many publishers were forced to lay off staff or close down altogether, a scenario created by the public monopoly. The advantages include: a more vibrant, customer-focused book industry; high quality of textbooks in terms of content, repackaging and production; prices will be reasonable as market forces come into play; an enhanced reading culture; a more focused, efficient and effective Ministry of Education; schools will have a vote for other important resource materials (atlases, dictionaries, wall-charts, publications on health and environment, etc.) previously unavailable since they were not produced by parastatals; schools will be able to build stocks of a variety of books for a subject depending on the school's resource base; a level playing ground for all players in the book industry.

Research Methodology

The study employed the education production function (EPF) as its theoretical framework. This (EPF) postulates that inputs determine the output of an education system. The research design adopted in this study was descriptive survey in which the researchers went in the field to collect data directly. The target population in this study was school principals, teachers, and students. Webuye West Sub-County, Bungoma County has a total of 36 public secondary schools, 36 principals, 340 teachers and 5230 students. The sample size in this study was 11 secondary schools, which were selected through simple random technique; 16 principals who were purposively selected from the sampled schools; 102 teachers who were purposively selected from the sampled schools, and 1569 students randomly selected from the sampled schools. Data collection involved the use of questionnaires, interview and document analysis. The analysis of data in this study was descriptive in nature. Data is presented in tables with emphasis to frequencies and percentages.

Findings

The study sought to know the influence of instructional materials on academic performance. The respondents were sought and tabulated as in the table be 1 below.

Table 1: The Influence of Instructional Materials on Academic Performance

Statements	SA		A		U		D		SD	
	F	%	F	%	F	%	F	%	F	%
The textbook-students ratio in this school is adequate for academic excellence	81	79.41	10	9.80	0	0.00	0	0.00	11	10.78
The students have enough exercise books	78	76.47	12	11.16	6	5.88	3	2.94	3	2.94
Functional library boosts academics	17	16.67	19	18.63	11	10.78	22	21.57	33	32.35
Well-equipped laboratory guarantees good academic results	23	22.55	25	24.51	24	23.53	22	21.57	8	7.84

Source: Researcher (2019)

The according to the table 1 the respondents indicated that there was influence of instructional materials on academic performance. They showed that many schools has inadequate textbook-students ratio that would support academic excellence 81(79.41%), the students have enough exercise books 78(76.47%). They disagreed that Functional library boosts academics 55(53.92%). Teachers also stated that Well-equipped laboratory guarantees good academic results 48(47.06%)

Majority of students attending public schools, had principals who felt that resource shortages had a moderate impact on the school’s capacity to deliver class work. All students attending independent/private schools had principals who reported that resource shortages had minimal impact on the school’s capacity to provide instruction. In terms of school location and size, students in smaller schools, and schools in minor urban and rural areas, were less likely to have principals who felt resource shortages had minimal impact on the school’s capacity to provide class work. Students indicated that resource shortages had minimal impact on academic instruction. Forty-four percent of students were in schools where resource shortages had a moderate impact on education and one percent of students were in schools where principals indicated that resource shortages had a serious impact on a school’s capacity to provide academic instruction. In comparison, fewer students (36%) were in schools internationally, on average, where principals felt that resource shortages had minimal impact on academic instruction.

The researcher sought to find out what is the Students perception on the Influence of Instructional Materials on Academic Performance. Data was collected, analyzed and presented as in the table below.

Table 2: Students perception on the Influence of Instructional Materials on Academic Performance

Statements	SA		A		U		D		SD	
	F	%	F	%	F	%	F	%	F	%
The rate of text book ration in below average	1287	82.03	188	11.98	31	1.98	0	0	63	4
Indicate if you agree that the Government should publish and distribute more books to suit the current population in the school	1334	85.02	235	14.98	0	0	0	0	0	0
State if you agree if the instructional material is priority in your school at the moment	1271	81.01	141	8.99	47	0.19	16	1	94	6

Source: Researcher (2019)

The table above stated that students agreed that the rate of text book ration in below average 1287(82.03), government should publish and distribute more books to suite the current population and Rate of category of textbooks Ratio is standard in your class. 1287(82.03%) One of the students Stated that:-

Textbooks are major teaching and learning resources used in schools. Given that a large number low income families cannot afford to buy their own textbooks, this is an important indicator related to equal access to quality education.

Students were also asked if teachers usually have assistance available when students are conducting studies.

They Stated that

In most classes approximately 12 percent of students were in schools where resources were distributed and regulated by the government policies. The resources are available for students conducting English, Maths and Academic Studies compared with the international average of 27 percent.

Over 85 percent of students in Chinese Taipei, Kuwait and Qatar were enrolled in such schools. Among the high-performing countries, Singapore and Hong Kong SAR had around 45 percent of students in schools with teaching assistance available, while the Russian Federation and Japan were much lower with 10 percent and 2 percent respectively of students in such schools.

Students stated that the Government should procure books to enhance studies to go on. Under By the Government procuring books more students will have access to textbooks. Students also indicated that that students currently in secondary school s there is an enormous obligation on Ministry of Education and Sports to improve the textbooks to student ratio from an approximation of 1:6 to 1:1.

However, this remains a dream for many children as textbooks remain locked up. Sidney Miria reports. AS Universal Primary Education enrolment in schools spirals so does the need

for more textbooks and other instructional materials. This goes for the six subjects of Mathematics, English, Religious Education, Integrated Science, Social studies and Agriculture for P3 -form four. The current drive by the Education Ministry to procure textbooks and other instructional materials is geared towards meeting this need.

The donor community is funding the multi-million-dollar project and the textbooks are to be distributed free of charge to all government aided secondary schools. Ms. Alice Ibaale, the Head of Instructional Materials Education Ministry says it is hoped that with the procurement of textbooks under cycle 8 and 9, the textbook to student ratio will come down to 1:3. These textbooks have been designed to suit the new secondary school. The curriculum aims at promoting a child friendly school and learning concepts. To the classroom teacher, the textbooks are a welcome relief due to the fact that they have been handling the new curriculum without tailor made reference textbooks.

Samuel Kewaza, a student at one of the school says the textbooks have been long overdue.

Student received the first batch of textbooks just a few weeks ago, • he said.

Students stated that the Schools expect to receive textbooks for in October between November 2003 and January 2004, according to Arnold Ntungwa, a student at Secondary school.

In the mean time we have been relying on our own creativity and other relevant instructional material in order to keep abreast with the new curriculum, he said. Whereas it is true that more students are going to have textbooks in their classrooms, it is also evident that they may not readily gain access to these textbooks as often as they wish. Esther Luwamanya a form four student at Buganda Road Secondary school says that although they can use the textbooks at school, they are not allowed to borrow them for use at home, because they are not enough to go round. However, there are students who never get to look at textbooks because the headteacher keeps them under lock and key. There is need for the Education Standards Agency (ESA) to look into this and ensure that the beneficiaries get to use the textbooks.

Education analysts say the procurement of textbooks under cycle 9 exhibited a greater degree of transparency in comparison to cycle 8, which was dogged with controversy over irregularities.

The implications of this have led to delays in the distribution of cycle 8 textbooks. The spillover effect from this has slowed the distribution of cycle 9 textbooks meant for the upper primary classes of form one to form four.

Conclusion

Students in schools where resource shortages made minimal impact on instruction, according to their principals, had similar academic achievement to students in schools where principals felt that resource shortages made a moderate impact on instruction. The pattern of little difference in achievement, although not observed across all countries, was observed in many of the high-performing and English-speaking countries.

As with academic, the effect resource shortages had on a school's capacity to provide education in Bungoma West Sub-County varied across decile groupings and school sizes, but in contrast with academic, there were no variations when major urban schools were compared to schools in other locations.

References

- Abagi and Wamahui S (1997) *Inefficiency in Primary Education, Nairobi, Accountancy Academic Publishers*
- Coombs, P.H. (1970). *The World Educational Crisis: A system Analysis. New York. Oxford University Press.*
- Eshiwani G (1997), *Education Since Independence, Jomo Kenyatta Foundation*
- Fafunwa, B. (1969). "The purpose of Teacher Education" in Adaralegbe A. (Ed.) *A Philosophy for Nigerian Education, Ibadan. Heineman Educational Books (Nig.) Limited.*
- Karmokolias, Y, Maas, J.(1997), *The Business of Education: A look at Kenya's private Education Sector, (Discussion paper) Washington D.C; World Bank.*
- Kerlinger, F. N. (2004). *Fundamentals of Behavioral Research (7th ed).* New York: Holt Renshart and Winston inc.
- Patrinos, H. A; Sosale Shobhana, (2007), *Mobilizing the private sector for public Education, Washington D.C; World Bank.*
- Republic of Kenya (1964) *The Kenya Education Commission Report (the Ominde Report), Government Printers, Nairobi.*
- Republic of Kenya (1999), *Totally Integrated quality Education and Training (TIQET), Nairobi, Government printer.*
- Republic of Kenya (2001): *Education for all (EFA) in Kenya: A National Handbook on EFA 2000 and beyond, Government printers*
- Republic of Kenya (2004), *National Action Plan on Education for all*
- UNESCO (1990): *World Conference on Education for all (WCEFA) Final Report: Meeting Basic Learning Needs (UNESCO; Paris*
- UNESCO (2004), *Free Primary Education Policy in Kenya, UNESCO, Paris.*
- Vega Emiliana, Petrow, J; (2007), *Raising student learning in Latin America: The challenges for the 21st century, Washington D.C World Bank*
- World Bank (2006), *Meeting the Challenges of Secondary Education in Latin America and Asia: Improving efficiency and Resource Mobilizing, Washington D.C; World Bank publication.*
- World Bank (2007), *Toward High quality Education in Peru: Standards, Accountability and capacity building, Washington D.C; Bank publication.*