



IMPACT OF CURRICULUM SUPPORT MATERIALS ON QUALITY OF CURRICULUM IMPLEMENTATION IN MAKUENI COUNTY, KENYA

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Abstract

The availability of curriculum support materials plays a great role on the quality of the implementation process. The purpose of this study was to examine types and availability of curriculum support materials acquired through Free Secondary Education Tuition Fund and their effects on quality of curriculum implementation in Makueni County. The study was based on the classroom instruction theory. The study applied mixed research design. The target population was all the public secondary schools in Makueni County, the principals, form 4 class teachers and form four students. A sample of 38 principals, 210 form four class teachers and 346 form four students giving a total of 594 respondents was used for this study. The public secondary schools were sampled through stratified random sampling. Purposive sampling was used in selecting the principals while the form four class teachers and form four students were selected using simple random sampling. The study used three research instruments; questionnaires for form four class teachers and students, interview schedules for the principals and observation checklist. Data was analyzed using both qualitative and quantitative methods. The results of the study revealed that there were several types of curriculum support materials found in public secondary schools which were purchased using the Free Secondary Education Tuition Fund. However, most of the textbooks supplied by the government were of poor quality. In addition, the study revealed that there was a strong relationship between the availability of curriculum support materials and the quality of curriculum implementation. Based on these findings, the study recommends that the government should have a clear policy that will guarantee good quality of the curriculum support materials and in particular the textbooks supplied to the public secondary schools. In addition, the government should ensure equity in the distribution of textbooks in all schools and across the subjects.

Keywords: availability, curriculum support materials and quality of curriculum implementation



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1.0 BACKGROUND TO THE STUDY

Many governments in the world have invested heavily on education by ensuring that schools have adequate curriculum support materials which are the critical ingredients in curriculum implementation (UNESCO, 2018). Curriculum support materials can be either electronic or non-electronic materials (World Bank, 2011). In a study on factors affecting quality of curriculum development process in the United States of America, Julius and Wesonga (2013),

reported that majority of the elementary schools were struggling with low quality standards in some subjects. Other studies conducted in USA indicated that the challenge of high quality curriculum support materials like textbooks, teacher's guides and other reference materials has been a persistent problem across all levels of education (Chiriswa, 2012). The problem of inadequate curriculum support materials was also reported in other developed countries like Canada and Britain (UNESCO, 2018).

Simsek (2003) cited in Saglam (2011) describes curriculum support materials as educational materials and resources that are used to promote the desired knowledge, skills, attitudes and values in learners. Curriculum support materials may either be print or non-print materials used in curriculum implementation (Dahar & Faize, 2011). Similarly Dahar and Faize (2011) identified various curriculum support materials used for curriculum implementation. These included; textbooks, newspapers, recordings, slides, transparencies and electronic media.

The importance of curriculum support materials is highly supported in curriculum implementation as cited by UNESCO (2012), by stating that; apart from teacher's qualifications and school facilities, quality education is highly determined by the curriculum support materials used in teaching. For effective curriculum implementation therefore, there is much need for quality curriculum support materials which should be made available to teachers and learners adequately (UNESCO, 2012).

In attempt to address the problem of lack of sufficient and acquisition of high quality curriculum support materials at the secondary school level, the Kenyan government introduced the free secondary education policy in 2008. The Kenyan Government's commitment of ensuring that all schools had sufficient curriculum support materials was further demonstrated in 2018 when the Ministry of Education spend 3.9 billion to procure text-books. In the 2018, Kenyan Government policy on textbooks, each student was allocated Ksh. 4,792 per academic year to support purchase of other curriculum support materials apart from textbooks.

According to Siringi, (2008), access to secondary education alone was not sufficient to provide the quality of skilled human resource necessary for the country's sustainable development but provision of enough curriculum support materials. The curriculum support materials availed through the Free Secondary Education Tuition Fund include; exercise books, chalk, laboratory chemicals, laboratory equipment, revision materials, teaching aids, teachers guides and materials for internal examinations. The study investigated the types and availability of curriculum support materials acquired through Free Secondary Education

Tuition Fund in Makueni county Kenya and assess how these types and their availability affect the quality of curriculum implementation in Makueni County, Kenya.

2.0 OVERVIEW OF AVAILABILITY OF CURRICULUM SUPPORT MATERIALS

A curriculum support material means a resource used to facilitate curriculum implementation and includes both electronic and non-electronic materials (KIE, 2010). These materials are used in curriculum implementation as stated by Owoko (2010). There are various types of curriculum support materials used in Kenyan schools and their availability ensures successful curriculum implementation (World Bank, 2011). Kanyora (2014) carried out a study in Mukurweini Sub County on the curriculum support materials provided in public secondary schools. From the study, the types of curriculum support materials available included; laboratory equipment and reference materials only. The Government of Kenya introduced Free Secondary Education Tuition Fund which caters for purchase curriculum support materials in public secondary schools.

In another study carried out by Andambi and Kariuki (2013), the researchers identified several curriculum support materials used in teaching Social Education and Ethics in secondary schools in Bungoma Sub County, Kenya. The curriculum support materials identified included; text books, life periodicals, newspapers, visual aids, pictorial materials, globes, maps, audio visual aids like television, radios and printed aids. However, the study by Andambi and Kariuki (2013) did not link the types of curriculum support materials with the quality of curriculum implementation hence a need for the current study because of the gap.

Munguti (2016) carried out a study on the influence of learning resources on students' academic performance in Geography in Makueni County. The results of the study showed that there are various types of curriculum support materials used for teaching Geography. However, the study by Munguti (2016) did not explore whether the introduction of Free Secondary Education Tuition Fund had cushioned the earlier challenge of scarcity of resources and its effect on the quality of curriculum implementation. Munguti's (2016) study also did not focus the sources of revenue from which the curriculum support materials are acquired from.

3.0 RESEARCH DESIGN

Trochim (2006) notes that research design is a method that a researcher uses to carry out research collect data, measurement, analysis data and the research problems. This research applied a mixed methods research design where both qualitative and quantitative methods

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were applied. This design was chosen since it enhanced the validity of findings in line with Almpanis (2016) who noted that no single design existed in isolation and hence, underscored the need for combining different designs.

3.1 TARGET POPULATION

The target population for the research was all the 381 public secondary schools in Makueni County (MOE Makueni County, 2018). The respondents included principals, class teachers and Form 4 students. The principals, Form 4 class teachers and Form 4 students were chosen since they were in a capacity to provide adequate data and information on availability of curriculum support materials in their respective schools. This was because the school principals were in charge of procuring other curriculum support materials apart from textbooks which were supplied by the government through the Ministry of Education.

3.2 SAMPLING TECHNIQUES AND SAMPLE SIZE

Stratified random sampling was used to select the schools for the study from all Sub-counties. The principals who participated in the interviews were sampled purposively. The form four class teachers and form four students who filled the questionnaires were selected using simple random sampling. The study was carried out in 38 schools from which 38 principals, 210 teachers and 346 students were selected yielding a total of 594 respondents.

3.3 DATA COLLECTION INSTRUMENTS

The study used three research instruments; questionnaires, interview and observation schedules. The questionnaires consisted of both open and closed ended questions. The questionnaires were administered to class teacher and student respondents respectively.

4.0 RESEARCH FINDINGS AND DISCUSSION

The objective of this study was to establish types of curriculum support materials acquired through Free Secondary Education Tuition Fund and their effects on quality of curriculum implementation in Makueni County. The results obtained from the study showed that there were several types of curriculum support materials used to implement the school curriculum in public secondary schools in Makueni County. The materials identified by the class teachers and students included; textbooks, exercise books, laboratory chemicals, laboratory equipment, teaching aids, revision materials and teacher guides. A summary of this finding is shown in table 1 below.

Table 1Types of Curriculum Support materials used in Secondary Schools in Makueni County

Curriculum Support Materials	Class teachers		Students	
	Frequency	%	Frequency	%
Text books	170	80.95%	264	76.30%
Exercise books	214	69.04%	245	68.82%
Laboratory chemicals	177	71.43%	213	61.56%
Laboratory equipment	149	70.95%	218	63.00%
Teaching aids	134	63.81%	197	56.93%
Revision materials	121	57.610%	167	48.27%
Teacher guides	268	89.52%	164	47.40%

The findings implied that teachers in public secondary schools in Makueni County used various curriculum support materials in curriculum implementation. As shown in Table 1, 80.95% class teacher respondents and 76.30% student respondents respectively reported that textbooks were commonly used in public secondary schools in Makueni County. Other resources used in public secondary schools were teachers' guides (89.52%) laboratory equipment (70.95%), revision materials (57.610%) and laboratory chemicals (71.43%) as reported by the class teacher respondents. These findings agree with those of the World Bank (2011) which states that curriculum support materials are critical ingredients in curriculum implementation. The results of the current study also concur with those of Akungu (2014) which pointed out that reference materials can be used to supplement teacher instruction and therefore teacher guides gave the teachers direction on how to deliver content as they teach. The study further sought to investigate the extent to which the school principals were involved in the procurement of curriculum support materials using the Free Secondary Education Tuition Fund (FSETF). The findings of the study according to the principal respondents showed they were actively involved in procuring curriculum support materials in their schools. A summary of the results is shown in Table 2 below.

Table 2 Principals Responses on the their level of involvement in purchase of Curriculum

Support materials procured using FSETF.

Curriculum Support Materials	Frequency	Percentage
Laboratory chemicals and equipment	22	71.00%
Exercise books	25	80.60%
Revision materials	22	71.00%
Teacher reference materials	9	29.00%
Laptops, desktops, disks	16	51.60%
Office stationery (chalks, biros, manilas, foolscaps Printing papers, registers)	25	80.60%
Wall charts, globes, models	12	38.70%
Internal exams	16	51.60%
Projectors	3	9.68%

It was found that 22 (71.0%) of the principals directly procured laboratory chemicals and equipment, 25 (80.60%) procured exercise books, 22(71.0%) procured revision materials, 9(29.0%) procured teacher reference materials while 16(51.60%) procured laptops, desktops and disks. The findings also showed that the office stationery like chalks, biros, manilas, foolscaps, printing papers and registers were procured using Free Secondary Education Tuition Fund. From this finding, it can be deduced that there is a clear government policy on how secondary school principals should be involved in the procurement of curriculum support materials using the Free Secondary Education Tuition Fund.

The study also sought to find out whether there is relationship between types and availability of curriculum support materials and the quality of curriculum implementation. This relationship was tested by the use of a hypothesis:

H₀₁: There is no significant relationship between types and availability of curriculum support materials acquired through Free Secondary Education Tuition Fund and the quality of curriculum implementation in public secondary schools in Makueni County.

The results of the relationships on the above hypothesis are presented in Table 3 below

Table 3: Cross Tabulation Analysis Results for Types/ Availability of Curriculum Support Materials acquired through FSETF

Types and Availability of Curriculum Support Materials	Student Performance			χ^2	p-value
	Not Improved	Improved	Total		
	n; (%)	n; (%)	n; (%)		
Textbooks issued per student per subject					
One	28; 20.9	106; 79.1	134; 81.7	7.559a	0.023
Two	0; 0.00	23; 100.0	23; 14.0		
Three	0; 0.00	7; 100.0	7; 4.26		
Total (n=164)					
Availability of teaching aids in class					
No	26; 41.30	37; 58.70	63; 38.4	15.805a	0.000
Yes	14; 13.90	87; 86.10	101; 61.6		
Total (n=164)					
Number of teaching aids per subject					
One only for some subjects				12.694a	0.002
One	8; 38.1	13; 61.9	21; 20.8		
Many	5; 13.9	31; 86.1	36; 35.6		
Total (n=101)	2; 4.50	42; 95.5	44; 43.6		
Number of teacher guides for each subject in the class					
One				22.739a	0.000
2 to 3	28; 28.6	70; 71.40	98; 59.8		
More than 3	0; 0.00	58; 100.0	58; 35.4		
Total (n=164)	0; 0.00	8; 100.0	8; 4.88		
Availability of revision materials in class					
No	7; 28.0	18; 72.0	25; 15.2	4.218a	0.040
Yes	17; 12.2	122; 87.80	139; 84.8		
Total (n=164)					

The cross tabulation results showed that the percentage of class teachers who noted improved student performance was 61.9% where there was one teaching aid only for some subjects, 86.1% where there was one teaching aid per subject and 95.5% where there were many teaching aids per subject in a class. The findings showed that the number of teaching aids per subject in a class was significantly associated with the quality of curriculum implementation in the public secondary schools in Makueni County as supported by ($\chi^2=12.694$, $p= 0.002$, $p<0.05$). The findings implied that students from schools that had adequate teaching aids were likely to perform better when compared to students who had few teaching aids. The

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findings concurred with that of Kaswa (2015) who found that inadequate teaching aids and which were in poor state were linked to adverse learning outcomes in classrooms which was attributed to slim budgets in public secondary school. The research findings also agreed with that of Manthra, Vishnu, and Gayathri (2018) which showed that having a variety of teaching aids such as concept mapping, picture cards, and video classes were very useful for learning and helped in boosting their academic performance.

The number of teacher guides for each subject in the class was also cross tabulated with student performance in examinations. The findings as outlined in Table 3 revealed that the percentage of class teachers who recoded improved performance among their students in examinations was higher where a class had 2 to 3 or more than 3 teacher guides for each subject at 100.0% compared to when there was only one teacher guide per subject at 71.40%. The chi-square results indicated that the association between the number of teacher guides per subject in class and student performance as a measure of the quality of curriculum implementation in the public secondary schools in Makueni County was statistically significant given ($\chi^2=22.739$, $p= 0.000$, $p<0.05$). The research findings implied that where teaching resources such as teacher reference books and guides were adequate, performance of students was likely to be higher in line with Musyoka (2018). Tety (2016) found that the availability of adequate instructional resources was positively linked to the academic performance of students. Vakalisa and Gawe (2011) also underscored that a requirement for positive teaching and learning was the accessibility of the specific teaching materials.

The research findings also showed that the percentage of class teachers who found an improvement in the performance of their students in examinations was higher where revision materials were available in class at 87.80% compared to when the revision materials were unavailable at 72.0%. The chi square statistic results ($\chi^2= 4.218$, $p= 0.040$, $p<0.05$) revealed that the availability of revision materials in class was significantly associated with student performance which was a measure of the quality of curriculum implementation in public secondary schools in Makueni County. The findings meant that students from public secondary schools in Makueni County that had access to revision materials were likely to perform better when compared to those who did not have such materials. The findings agreed with Wiggins, Halder, and Biswas (2013) who found that past examination papers and specimen papers provided opportunities for learners to become familiar with the assessment requirements of the course and try to get as much practice in as they can before your final examinations.

5.0 CONCLUSIONS

Based on the study findings, the study concluded that there were various types of curriculum support materials in public secondary schools in Makueni County Kenya whose availability was varied and which the students and teachers could exploit towards enhanced performance in internal examinations which was an indicator of the quality of curriculum implementation in these public secondary schools.

6.0 RECOMMENDATIONS

Based on the study findings, the study recommends that there should be enhanced diversification of the curriculum support materials issued per subject in order to ensure that students have adequate reference materials and can get diverse views and approaches towards comprehending a particular topic. The study also recommends increased purchase of teaching aids by school management to ensure that each class has sufficient teaching aids required in enhancing learning. It is recommended that teacher reference materials be increased in order to ensure that they adequately understand the content to be taught and have different ways of tackling issues raised by students in various subjects.

The study further recommends that the government through the MOE should prioritize equipping the schools' laboratories with the necessary chemicals and equipment to enable the students to comprehend curriculum content taught in practical lessons.

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