

Evaluating The Level to Which Institutional-Based Practice of use of Learning Materials Influences Students' Academic Performance in KCSE in Public Secondary Schools in Makeni County, Kenya

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Abstract

Education is essential for achieving success. This study aimed to examine the impact of institution-based practices regarding the use of learning materials on student academic performance in the Kenya Certificate of Secondary Education (KCSE) in public secondary schools located in Makeni County, Kenya. The research was grounded in Path-goal Theory and employed a descriptive research design. The target population included 380 public secondary schools, 380 principals, 1,520 teachers, and 1,140 student leaders. A combination of simple random sampling, stratified sampling, and purposive sampling techniques was utilized to determine the sample size. Data were collected through questionnaires administered to principals, teachers, and student leaders, while scheduled interviews were exclusively conducted with the principals. The validity of the research instruments was verified by experts from the School of Education, and reliability was assessed using the test-retest method. Quantitative data from the questionnaires were coded and analyzed using the Statistical Package for the Social Sciences (SPSS), which facilitated the generation of descriptive statistics and the application of the chi-square test. The analysis involved frequencies, percentages, means, and standard deviations, with hypotheses tested at a 0.05 level of significance using the Pearson Correlation Coefficient based on the study objectives, leading to conclusions and recommendations. The study found a high correlation coefficient (r) of 0.62, indicating that the availability of learning materials in public secondary schools in Makeni County positively influences student performance in KCSE. The study recommended that the Kenyan government, through the Ministry of Education, should ensure the provision of necessary instructional materials and establish child-friendly schools by offering financial and logistical support. Furthermore, the study emphasized that while motivation and leadership play significant roles, they must be supported by adequate resources that enhance teaching and learning. As noted by various stakeholders, students are eager to learn; however, their efforts are often hindered by insufficient tools to assist them in their academic pursuits. Addressing this issue is not only a managerial responsibility but also a critical policy imperative.

Keywords: Institutional based practice, Learning Materials, Student academic performance, Path-goal theory, Instructional resources, Education policy

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1. Introduction

Education is widely recognized as the foundation for the well-being of society. The success of any educational institution is closely linked to the availability and effective use of suitable teaching and learning resources, as noted by Akungu (2014). The level of education is a critical factor in national development, and quality education is one of the sustainable development goals set by the United Nations (Nazar, 2018). The global focus on achieving quality education has sparked significant discussions regarding the institutional practices necessary for the effective implementation of curricula to enhance educational outcomes (Stewart, 2012). Research conducted by Day (2016) indicates that school leadership must adopt transformative practices to improve student performance in national examinations.

In many African countries, particularly in the Sub-Saharan region, initiatives such as Free Primary Education (FPE) and Free Day Secondary Education (FDSE) have been introduced to ensure basic education for all children. However, the increase in enrollment in primary and secondary schools has overwhelmed the limited resources available, resulting in subpar academic performance in national exams. A study by Siphon Mason (2016) suggests that the South African education system will not operate effectively until issues related to undue union influence and critical educational factors are addressed. This underscores the need for school management to implement effective school-based practices aimed at enhancing educational goals, particularly student academic performance.

In Kenya, the government has increased funding for secondary schools to meet specific criteria and guidelines. Despite these interventions, student performance in the Kenya Certificate of Secondary Education (KCSE) has remained low in many institutions. The administration of secondary schools and the provision of learning materials are vital for improving student academic outcomes in KCSE. Learning materials are essential tools in the teaching and learning process, aiding in the achievement of desired educational objectives. Research by Ramli (2019) in Malaysia indicates that e-learning systems, teaching/learning materials (TLM), and library resources positively influence student academic performance. Findings by Maimoona (2021) in Pakistan recommend that the government enhance facilities in rural areas to ensure equal access to technology as in urban regions. In South Africa, a significant shift from teacher-centered to learner-centered teaching is necessary to foster critical thinking and enhance academic performance among students (Magoshoa, 2014). Effective use of textbooks has also been shown to positively affect student performance (Li, 2024). Research by Fatma (2022) in Kenya found that for students to achieve above-average scores, teachers must be resourceful in collecting, preparing, and utilizing teaching materials. This study aims to determine if similar trends exist in public secondary schools in Makueni County, Kenya.

In Kenya, the implementation of policies such as Free Day Secondary Education and a 100% transition rate has negatively impacted the adequacy of teaching and learning materials in secondary schools, contributing to declines in student academic performance. Consequently, the management of public secondary schools is expected to seek funding from parents through school fees or alternative sources to support initiatives that may positively influence student outcomes. A study by Ogeta (2018) revealed a severe shortage of TLM, particularly textbooks and library resources, which has fostered negative attitudes toward learning among both teachers and students. It is evident from various studies that the availability of teaching and learning materials significantly impacts student academic performance.

1.2 Statement of the Problem

Student academic performance in Kenya has not been as expected over the years. The performance in public secondary schools in KCSE drastically dropped in the year 2016 which caused a major national concern and up to today the KCSE performance remains below the expected standard. In 2016, the KCSE County mean dropped from 5.07 to 3.67 in Makueni. The low KCSE performance in the nation brings a threat to the national development since the academic performance determines the progress that Kenya would make in the process of becoming an industrialized nation by the year 2030 as projected in the National Development Plan (NDP). In Makueni County which is the area of study, the performance in KCSE has remained low in public secondary schools since 2020 to 2024 as shown in Table 1.

Table 1: KCSE Performance in Makueni County, Kenya. (2020-2024)

Year	Mean	C+ & Above %	D & Below %
2020	3.40	14.45	51.69
2021	3.38	14.02	54.85
2022	3.37	13.71	50.63
2023	3.35	13.75	51.26
2024	3.34	13.43	51.05

The results in Table 1 show a low performance in KCSE in Makueni County. It is for this reason therefore the researcher undertakes this research to establish the influence of institutional based practices on students' academic performance in KCSE in public secondary schools in Makueni County, Kenya.

1.3 Objectives of the Study

The study aimed to:

- i. Assess the levels of academic achievement in public secondary schools in Makueni County.
- ii. Determine the extent to which institutional practices in the use of learning materials influence students' academic performance in the Kenya Certificate of Secondary Education (KCSE) in public secondary schools in Makueni County, Kenya.

1.4 Research Questions

- i. How do public secondary schools in Makueni County perform academically?
- ii. How does the institutional use of learning materials affect KCSE performance in public secondary schools in Makueni County, Kenya?

1.5 Conceptual Framing

The study was based on the Path Goal Model by House, Mitchell (1974). This theory was first the work of Martin (1970). The study embraced the Path-Goal Theory, which aligns institutional input (such as learning materials) with expected educational outcomes (Saleem, 2021). Learning materials act as key inputs that shape the academic environment and determine the quality and effectiveness of instruction. The study conceptualized learning materials to include textbooks, reference books, revision materials, laboratory equipment, charts, atlases, and ICT tools.

2. Literature Review

A robust literature review indicated a positive relationship between the availability of learning materials and student academic outcomes. Learning materials are academic instructional tools developed to be used by teachers in the process of teaching and learning so as to facilitate student academic performance. A study by Lewis (2019) highlighted that TLM refers to materials used by teachers in class so as to achieve a specific learning outcome. The study revealed that TLM include; text books, story books, charts, manipulative, samples of student writings, computers atlases and related materials. The TLM are termed to be enough when each learner has an equal opportunity to freely access and interact with the materials in the process of learning.

A study by Dhakal (2020) in Nepal on challenges of the use of instructional materials used structured interviews to collect data from 8 teachers concluded that the school management should organize for training and workshops to teachers on how to use TLM so as to achieve the objective of improved learning outcome. The study findings also revealed that challenges like unavailability of the learning materials and financial constrains among others can be solved by school management interventions. The government should provide more facilities in rural areas to make the acceptability of computers equal to urban students (Maimoona, 2021). Study findings by Ramli (2019) in the University of Malaysia Kelantan revealed that E- learning of system management, TLM, and library learning equipment positively impact on student academic performance. The studies reveal a positive relationship between the use of TLM and student academic performance

A study by Moghashoa (2014) in South Africa on teaching and learning policies gathered information from 20 school managers and students where purposive sampling was used and the main data collection tool was interviews. A critical discovery analysis was made on how teaching would shift from teacher centered to learner centered through the use of enough TLM for this would enhance thinking and reflection among students. The study findings revealed how TLM have positively impacted on student academic performance. Research by Momoh (2010) on the effects of instructional resources on student performance in West Africa School Certificate Examination (WASCE) concluded that TLM have a significant effect on student achievements since they facilitate the learning of abstract concepts and ideas as well as discouraging rote-learning. Stephen (2013) in Nigeria on influence of instructional materials on student academic performance revealed that students taught by use of instructional materials perform better academically than those taught without instructional materials. Inadequate provision of TLM in public secondary schools would lead to poor academic performance (Ouchi, 2009). The secondary school administration should take the responsibility to offer the required TLM so as to impact positively on student academic performance hence the need to carry out a study across public secondary schools in Makueni County, Kenya.

In Kenya the policy of 100% transition has led to increased number of students every year hence making the supplied TLM by the government not enough. For students to score above average, teachers should be resourceful in their collection, preparations and use of teaching materials (Fatma, 2022). A study by Ogeta (2018) in Kenya on influence of resources on student academic performance employed a cross-sectional research design and established that the acute shortage of TLM in most of the public secondary schools had led to negative attitude towards teaching and learning to both teachers and students which translated to poor student academic performance. Effective utilization of text books positively influences student academic performance (Li, 2024). Study findings by Munguti (2016) highlights that use of TLM in teaching and learning promotes student academic performance. These empirical studies underscore that learning resources play a crucial role in attainment of student academic excellence.

3. Research Methodology

A descriptive research design was employed. Data was collected from 76 principals, 304 teachers, and 304 student leaders using structured questionnaires and interview guides. Quantitative data were analyzed using SPSS (version 24), while qualitative responses were analyzed thematically. Validity was ensured through expert review, and reliability was established using the test-retest method.

4. Results

4.1. Availability and Use of Learning Materials

The objective of the study to achieve was to establish the influence of availability of learning materials on KCSE performance in public secondary schools in Makueni County, Kenya. The results showed the extent the respondents agreed with the statements. The results indicated that all the items related to availability of learning materials attained

average mean score of 3.6 meaning they were affirmed. The first statement was 'the school management provided enough revision books and Atlases in the school'. The findings indicated that the respondents agreed with the statement at a rate of above 80% on that the school management provides enough revision books and atlases. These findings are in line with the findings by Ogeta (2018) in Kenya who argued that shortage of learning materials in secondary schools leads negative attitude towards teaching and learning to both teachers and students hence poor academic performance.

The next item in the statement sought whether there were enough text books for all subjects taught in the school. The respondents agreed with the statement at a rate of above 90%. The study findings in this statement are in agreement with study findings by Ogeta (2024) which revealed that effective utilization of text books positively influence student academic performance. According to the study findings, there was a need to have the required text books and a great need to utilize the text books so as to positively impact on student academic performance.

The third statement sought whether there were enough and functioning computers for ICT learning in the school. The principals' respondents agreed with this statement at a low rate below 20%. The study findings in this item revealed that the availability of computers for ICT learning in public secondary schools in Makueni County was very low. The study findings on this statement are in agreement with the findings by Maimoona (2021) in Pakistan who recommended that government should provide more facilities in rural areas to make the acceptability of computer equal to urban areas. Study findings by Mwikali, (2016) in Kenya also recommended that computer studies should be made compulsory for all the students in the Kenyan education system.

The next item on the statements was to find out whether teachers use learning materials in the process of teaching every subject in the school. The respondents agreed with the statement at the rate of above 70%. The study findings are in line with findings of a study by Magashoa (2014) who established that the teaching method should be shifted from teacher centered to learner centered to enhance thinking and reflection among learners. For learning to be learner centered, the learners need to interact with the learning materials in the process of learning and this would lead to improved student academic performance. The last statement sought the opinion of the principals on whether the use of learning materials in the process of teaching and learning has led to improved KCSE performance. The respondents' responses agreed with this statement at the rate of above 90. These findings agreed with the findings by Stephen (2016) in Nigeria which revealed that students taught by the use of instructional materials perform better academically than those taught without instructional materials. The findings of the study indicated that the secondary school managers in Makueni County need to embrace the use instructional materials in the teaching of every subject in the school so as to enhance improvement of KCSE performance.

The relationship between availability of learning materials and student academic performance in KCSE in public secondary schools in Makueni County was determined using Pearson moment correlation coefficient. Hypothesis testing was done using Pearson moment correlation coefficient between availability of learning materials and student academic performance in KCSE in public secondary schools in Makueni County, Kenya. The hypothesis testing established a strong positive correlation ($r= 0.62$, $p<0.03$). In support of these results, during interviews of the principals, the researcher sought to find out from the principals whether the school management got involved in provision of learning materials upon which they said that school administrators are 100% involved. The researcher also inquired from the principals through interview process on some of the learning materials provided by the school management. The responses of the principals included; set books, materials for practical subjects, revision materials, examination materials, farm tools, videos and printing services

The results of the study concurred with the study findings by Fatma (2022) in Kenya which established that, for students to score above average, teachers should be resourceful in their collection, preparation and use of teaching materials. The study findings reveal that there is need for schools' administration in public secondary schools in Makueni County to participate actively in provision of learning materials which would impact positively on KCSE performance.

4.2. The study found that

- A majority of public secondary schools in Makueni County lacked sufficient textbooks, especially for science and humanities subjects.
- ICT resources, such as computers and projectors, were present in fewer than 30% of schools, limiting access to digital learning.
- Most schools relied on government-provided textbooks, which were insufficient given the high student population due to 100% transition policy.
- Libraries, where available, were under-stocked or lacked updated material as photocopying materials or partnering with local NGOs to supplement book stock, though these efforts were inconsistent and unsustainable.

4.3. Challenges Observed

- Funding gaps hindered the purchase of adequate learning materials.
- Overcrowded classrooms led to increased wear and tear of available books and reduced teacher-student contact.
- Teacher training on the use of new digital tools (like online simulations or e-books) was largely inadequate.

5. Conclusions and Recommendations

5.1. Conclusion

The study concluded that availability and effective use of learning materials significantly influence student academic performance in KCSE. Schools with better resourced libraries, ICT labs, and textbook-to-student ratios reported higher mean scores than under-resourced counterparts.

5.2. Policy and Practice Implications

The findings strongly suggest that without robust investment in learning resources, efforts to improve KCSE outcomes will remain inadequate. The government's implementation of 100% transition needs to be matched by proportional investment in learning infrastructure and materials. Moreover, proper training should be offered to educators on how to maximize the resources available to them.

5.3. Recommendations

- The Ministry of Education should allocate increased funds for textbook acquisition, especially in rural and mixed-day schools.
- Schools should establish or upgrade school libraries, and integrate ICT for digital learning.
- Teachers should undergo regular in-service training on effective utilization of instructional materials.
- School management should explore partnerships with NGOs and the private sector to improve access to materials.

While motivation and leadership are crucial, they must be complemented by tangible resources that facilitate teaching and learning. As highlighted by multiple stakeholders, students are willing to learn, but their effort is undermined by the lack of tools to support their academic journey. Bridging this gap is not just a managerial duty but a policy necessity.

Declaration of Competing Interests

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Ethical considerations

The article followed all ethical standards appropriate for this kind of research.

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