

Influence of Physical Educational Resources on Quality of Education in Public Secondary Schools in Kenya: A study across Public Secondary Schools in Homa Bay County.

Erick Owuor Ochungo, Enose M.W. Simatwa, Marciana N. Were

Faculty of Education, Tom Mboya University, Kenya

DOI: <https://doi.org/10.47772/IJRISS.2026.100700429>

Received: 22 July 2026; Accepted: 28 July 2026; Published: 04 August 2026

ABSTRACT

Schools with higher student enrolment receive higher capitation from the government. This enables them acquire better educational resources that are believed to impact positively on student academic performance. That is, quality grades that denote high quality education. Despite the higher student enrolment in Homa Bay County public secondary schools, performance in national examinations that is, Kenya Certificate of Secondary Education (KCSE) had continued to be low, that is, below the national average for the last four years as they registered mean scores of 4.21, (2021), 4.19, (2022), 4.17, (2023), 4.09, (2024), in Kenya Certificate of Secondary Education. The purpose of the study was to establish influence of physical educational resources on quality education in Homa Bay County. The theory that guided the study was System Theory (Lawrence, 2013; Yutchman, & Seashore, 1967).) which states that the presence of physical facilities including tables, desks, toilets, classroom and changing rooms for female students are important in the presence of teaching and learning process that enhances quality education. The study established that Physical educational resources influenced the quality of education by accounting for 7.5% of the variation in the quality of education. The physical educational resources that significantly influenced the quality of education were libraries, dormitories, classrooms and laboratory. The other physical educational resources contributed to quality of education but were not significant. These included playgrounds, staff offices, toilets/washrooms, school fences and furniture. The findings of this study are useful to the Ministry of Education as they provide baseline information for further research, policy formulation and practice.

Keywords: Influence, Physical Educational Resources, Quality Education, Public Secondary Schools, Kenya: study across Public Secondary Schools, Homa Bay County.

INTRODUCTION

Before the 15th century, there was persistent inadequacy of educational resources in learning institutions. Therefore, 15th Century invention of the printing press drastically changed the status of educational resources by increasing the accessibility of knowledge from learning materials that were made more widely available. This therefore improved the quality of education (Eisenstein, 2020). Similarly, UNESCO (2022) on the other hand also pointed out that quality education is not only accessibility to education, but also having surety that the education system produces well-rounded individual capable of encountering today's complex universe problems such economic issues, social and problem of the environment. Mbogo (2023) further clarify that, good quality education produces citizen who are mindful, improves their lives as well as that of their community since the quality education impart them with essential specific knowledge and emotions to view world in a different way and change character.

There are several foundational international human rights agreements that support quality education like the 1948 UN universal declaration on education that establishes education as a human rights education, 1966 international

covenant on economic, social and cultural rights that guarantees free and compulsory primary, secondary and higher education, 1989 convention on the rights of the child that assert education must develop children's full potential personality, talent, mental as well as physical abilities. 1960 UNESCO convention against discrimination in education that requires government to guarantee not just access to education, but also a specific standard and quality of education that serves as a global commitment to ensure equitable quality education to all learners. All these conventions affirm the global need for quality education. Therefore, for years, transformation towards attainment of quality education has led to signing of various treaties and declarations globally. UNESCO, (2005) indicated significant to quality education globally was affirmed by the United Nations 1948 Universal Declaration on Education that declared education be a global right for human and then 1990 World education conference in Jomtien-Thailand as well as immediate 2000 Millennium Development Goals Conference in Senegal capital city of Dakar.

The World Bank, (2021) indicated that China's new economy development was as a result of high-quality education system that significantly improved the rates of literacy and achievement of education that cultivated higher quality workers. Despite China improvement in the quality of its education system, significant gaps to ensure equitable quality education in rural areas with little access to resources and quality teaching material persisted. Mohamed and Chui, (2025) indicated that success of secondary school students in academic performance in Bangladesh significantly depend on provision of educational resources and educational resources that were of great significant in students' academic achievements were, human resources such as teachers' qualification, physical resources such as available classrooms that are well equipped with other educational resources such as digital facilities for integrating Information Communication Technology during teaching and learning, resources for sporting activities, libraries, laboratories and financial resources to adequately financing all management practices that may require financial resources.

Olayinka, et al., (2021) indicated that despite Nigeria significant improvement in expanding its accessibility to education evident in progress in school enrolment, there is still persisted poor academic performance results in examination, lack of quality teachers, as well as inequity in education in educational resources, particularly in remote and marginalized areas. The World Bank, (2020) also argued that Nigeria's education system struggle with high dropout rates, low learning outcomes, and unequal access to quality education, especially for girls and marginalized communities. This indicate that Nigeria despite being known for its high academic performance in examination, higher economy and a learned population in general but it is still struggling absence of the essential resources for the implementation of the quality education. This therefore calls for African countries to assess the adequacy of their educational resources.

Article 39 of the 2013 Basic Education Act in Kenya also lists the government obligations in providing quality education that include; providing individual learner with basic education, providing policies for protecting marginalized, vulnerable or disadvantaged children from discrimination against and any other discrimination that may prevent them from pursuing and completing basic education, providing human resource such as teachers as per established regulations, provision of adequate and appropriate educational resources such as schools financial resources, provision of quality basic education as per the set standards, provision of special education and teaching resources for students with talent and gifts as well as disabled children, monitoring functionality of schools and to advise the government on issues of financing basic education infrastructure development, (Ministry of Education, 2023).

There are various physical educational resources that impact on quality education in Homa Bay County secondary learning institutions. These include physical resources such as classrooms, playgrounds, library, laboratory, laboratory, staff offices, dormitories, staff houses, toilets, school fence, toilets/washrooms, workshops, kitchen and stores. Teaching and learning resources that include journals, workbooks, reference materials, timetables, schemes of work, record of work covered, register, lesson plan, commercial handouts, teachers guide, joint examination past papers, laboratory materials and laboratory apparatus. Digital resources such as, projectors, computer, tablets, television, smart boards, educational software and online resources. Human resources that include teachers, support staff, administrators' qualification, administrators' experiences, librarian experience and qualifications, security experience and qualifications, school board of managements, drivers as well as technical support. Infrastructure resources that include the underlying systems like internet, electricity, alleys,

wholesome water, hand wash facilities, sewage, generator back-up, security light, school bus and financial resources that include grants, government capitations, bursaries and fees.

This is an indication that success in education not only depend on effective teaching and learning, but must also be supported by a various range of educational resources, each having a unique and critical part in the process of education. Physical resource ensures the provision of spaces for learning, infrastructure ensure provision of the underlying system to support the process of learning while the human resource provide the knowledge, expertise and engagement in the learning process. Teaching and learning materials provide support the learning process as financial resources ensures that learning process is sustainable. A well-balanced interactions and integration of these significant educational resources promote effective learning for the success of the student in education.

Synthesis of Literature on Influence of Physical Educational Resources on Quality of Education

According to Ikram and Kenayathulla, (2023) quality of education has direct significant positive influence on satisfaction of students with educational resources such as school support, facilities, equipment in classes and growth of private higher education institutions in Pakistan. Therefore, universities where student satisfaction with educational amenities, support, classroom resources as well as equipment are high, produces students that are competent and productive to help a country to develop. This research recommended policy makers to put more attention on provisions of key indicators, which contribute to satisfaction of students and quality educations. This study informs the current study to establish which are the key indicators of quality education that are of great significant and their influence on quality education. Although the study found physical resources are of significant in provision of quality education in Pakistan higher learning institutions. Little was known which of these physical resources were significant predictor of quality education. This study also only looked at private universities in one province in Pakistan where postgraduate students were the respondents. The study nevertheless did not study significant educational resources such as laboratory and apparatus. The study recommended future researchers should focus educational resources such as classroom facilities, and equipment on quality education as well as demographic factors on indicators of educational quality. This study informed the current research that looked at influence of educational resources indicators such as physical resources, infrastructure, teaching and learning resources and human resources on the indicators of quality education such as student academic performance.

Yangabi, (2023) also determined influence of school educational resources on students' knowledge acquisition and achievement among 3 schools in Kinsha, Congo using quantitative research design. Study result indicated inadequate physical facilities negatively effect process of learning directly, while improved conditions result in higher academic successs since school conducive environment and infrastructure forms the foundation of the results needed by teachers in school. This study recommends policy makers to continuously improve the physical facilities in all schools to optimize indicators of quality education such as academic achievements and cautioned teachers and school administrators from blaming student for failing yet little attention is given to adequacy of resources. This research therefor directed future studies should expand beyond the three public schools in the Kinshasa-Ngaliema division to include a larger, nationwide sample that can guarantee generalization across other developing countries. Further, the study only relied heavily on data collected from teacher questionnaires and recommended future work to integrate students and school managers to provide more holistic view of the school physical resources and isolate the exact impact of individual components. This includes continuous improvement and comparison of separate effects of classrooms, science laboratories, digital technology, or sanitation facilities such as clean wholesome water and toilets on student performance, the gap the current study addressed

Similarly, Ewhrudjakpo and Kpee (2024) examined the availability of physical resources in school and achievement of students in external examination in learning institutions that were fully accredited centers for the West Africa Senior School Certificate Examination in Nigeria using descriptive survey design, analysis of trends as well as analysis of document approaches. The findings of the research established that state of school produce corresponding effects on student's achievements in external examinations as learning institutions with fully equipped facilities such as science laboratories and functional libraries consistently yielded higher student academic performance compared to those lacking basic infrastructure. The study therefore recommended an increase in investments to education to ensure that adequate physical facilities are provided to enhance students' performance in external examination and proper maintenance culture be adopted to improve the life span of most

facilities so as to aid students' performance in external examination. The study suggested future researchers to contrast and compare findings from other countries and Nigeria. Although the study determined the aspects of physical resources such as laboratory and library conditions on academic achievement, it did not look at the influence of adequacy of other essential safety physical facilities like fence dormitory and staff offices. Moreover, the number of the respondents were less. This finding informed the need of researching on the influence of adequacy of physical resources on quality education. The gap the current study addressed.

Baafi (2020) on the other hand also sought to establish and compare the relationship between physical resources and students' academic performance in Ghanaian learning institutions using regression model and established that well-maintained learning environments, including proper classroom design, lighting, and adequate facilities, significantly enhance student focus, motivation, and overall academic performance as quality of classrooms, libraries, and sanitation directly correlates with abilities of learners to concentrate as well as engage during lessons. This study concluded that learning institutions that have better physical learning environment performed well in examinations compared to those without conducive atmosphere for learning as empirical evidence indicated that school physical facilities enhance a positive environment that suit student learning. This study only looked at the condition as status and did not focus on the influence on availability of educational resources. The study recommended future research to examine how the quality of sanitation and hygiene facilities specifically influences performance among students as well as evaluating physical resources distribution between prestigious and marginalized schools. The gap current study addressed

On the other hand, Hawkins et al, (2023) found schools that had better playground, classrooms, laboratory, library, staff offices and students' dormitory performed well in the national examinations because they had the atmosphere that suit them to learn. This study looked for condition of the physical facility without attention on adequacy of the physical resources and quality education such as students' academic achievement in secondary schools in Ghana. The study recommended future researchers to combine the quantitative regression model with qualitative interviews to discover why specific environmental gaps disrupt learning, the gap addressed by the current study.

Sukurieth and Kitula (2022), looked at the relationship between availability of physical facilities and quality education in Tanzanian learning institutions and revealed that many schools lacked teachers' office and used one of the students' classrooms while classrooms are not enough for students, in some schools teachers were using students' furniture interchangeably. This study underscore the importance of adequate educational resources in improving the student learning outcome in schools but did not indicate which type of resources are of great significant. The study therefore recommended parental involvement in building of infrastructures, regular maintenance and well equipping strategies for provision of enough infrastructures. Future researchers to do a comparative study between Arusha and other East African regions facing similar rapid student enrolment spikes or replicate the study design in remote, rural Tanzanian districts to assess nationwide infrastructure disparities.

Chahilu, et al., (2023) in Kenya found that schools that had adequate physical resources had higher educational achievement than those with inadequate physical resources as adequate as well as effective use of physical educational resources ensure meaningful learning and teaching as they improve learner concentrations, motivation and mastery of content in early childhood learning institutions. These findings indicate that lack of physical resources hinder the implementations of curriculum goals and objectives and reduce students' achievement in examinations. The recommendations of the study informed the education stakeholders such as ministry of education and the County government of Mombasa to consistently provide learning institutions with adequate teaching and learning resources that ensure all learning institutions in Kenya comply with ministry guidelines on safe playgrounds and adequate equipment to improved learning outcomes. This finding informed the current study that established the adequacy of physical resources on educational quality in public learning institutes to improve schools' capability of improving performance

Hassan (2016) on factors influencing performance of students in Isiolo Sub County and established that school physical facilities have greater influence on students' academic achievement since libraries aid the students to undertake more reading and act as resource centre for both students and teachers while lack of these resources negatively affects the performance of students. This finding highlighted that academic success in marginalized sub-county schools is directly influenced by the physical learning environment and pedagogical interventions alone cannot bridge the performance gap without corresponding physical resource development, availability and

adequacy. This informed the need to establish the relationship between physical resources and quality education to establish which resources had greater influence.

Conceptual Framework

The conceptual framework was adopted from UNESCO (2014) framework on quality of education that stated that there is association between the input and outcome as input in education translates into outcomes. The conceptual framework adopted to explain association that existed between dependent and independent variable in the study postulate that physical resources (laboratory, library, playground, staff offices, classroom, school fence, toilets/washrooms, school furniture and dormitories), influence the dependent variable, quality of education. The intervening variables in the study were government policy and parental factors.

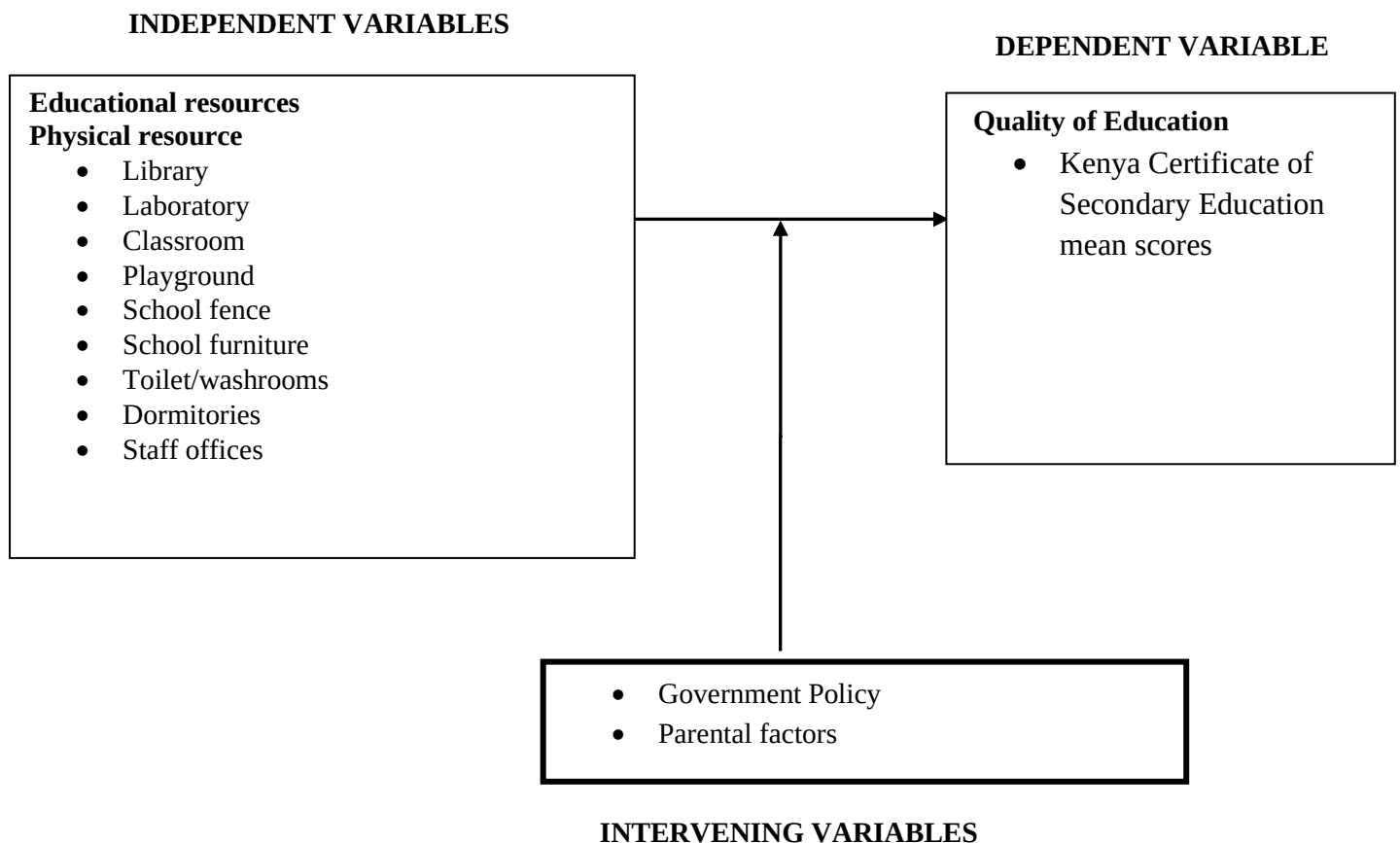


Figure 1 Conceptual Framework showing influence of physical educational resources on quality education in secondary schools

RESEARCH METHODOLOGY

Descriptive survey and correlational research designs were adopted for the study. The data were collected from sample size of 384 form four students, 151 form four class teachers, 167 principals determined using Fishers' formulae as respondents for the study. Students used as respondents in the study were selected using random sampling. Systematic sampling selected the schools, while saturated sampling was used to select one principal as well as one class teacher per school. The 7 Sub County Quality Assurance and Standard officers from each sub counties of Homa Bay County were selected using purposive sampling. The questionnaires were given to form four class teachers, interview for Sub County Quality Assurance and Standard officers and principals while student focus group for students were selected randomly. Observation schedule and document analysis were also used by the researcher. Reliability of instrument was determined by conducting piloting with 1 quality assurance officer, 17 principals, 17 class teachers and 38 students and result's reliability was tested using Cronbach formulae where all construct of educational resources had Cronbach's alpha value of above 0.76. Validity of the instrument for the study was ensured by University faculty of education experts. Qualitative data were transcribed then analyzed in themes to support quantitative data. SPSS 2022-version was used to analyse the quantitative data which was represented in ANOVA, mean rating and multiple regression analysis tables.

RESULTS

Demographic Characteristics of Respondents

The characteristics of respondents were as shown in Table 1.

Table 1: Demographic Characteristics of Respondents

Gender of Class Teachers	Frequency	Percentage
Male	90	59.7
Female	61	40.3
Totals	151	100
Professional Qualification		
Diploma	33	21.9
Bachelor degree	98	64.9
Master's degree	20	13.2
Total	151	100
Form four class teachers Type of employment		
Teachers Service Commission Employed	138	91.4
Boards of Management	13	8.6
Total	151	100
Type of School		
Mixed Day	52	34.4
Mixed Boarding	7	4.6
Boys Boarding	35	23.2
Girls Boarding	26	17.2
Boarding/Day Girls	15	10
Boarding/Day Boys	5	3.3
Mixed/Day/Boarding	11	7.3
Total	151	100

Table 1 indicate that there were more male class teachers 90 (59.7%) of the respondents than female class teachers, 61 (40.3%) of the respondents. These indicate that there was gender disparity in the number of female and male form four class teachers in learning institutions. Majority of form four class teachers had Bachelor's degree, 98 (64.9%).The popularity of bachelor degree may be due to the fact that those with bachelor degree outshine those with diploma during employment and therefore getting higher number during employment by the government. The other reason why bachelor degree was popular was because of the higher salaries attached to it and the academic respect given to degree holders. Only 20 (13.2%) class teachers had a master degree, this low number of class teachers with masters may mean that most teachers in Homa bay County secondary schools are not enrolling for post graduate studies, Therefore, this may be due to the time taken to pursue master's degree is longer and the employer only value certificates, diploma and bachelor degree and no increment for masters' certificates. This may be because the fee for master's degree may be high. There were 33(21.9%) class teachers who holds diploma; this may be due to competitions from those with bachelor degrees. This may also be because most of the universities stopped offering diploma in education courses.Thirteen (8.6%) of the class masters in Homa bay County were under Board of Management while a larger number of form masters, 138(91.4%) were employed by the Teachers Service Commission. The higher number of teachers employed under teacher's service commission may be due to the fact that the government has employed enough number of teachers in secondary schools to improve on quality of education. The largest proportion of respondents were from mixed day schools, which accounted for 52(34.4%) teachers. This is followed by boys' boarding schools, with 35 (23.2%) respondents and girls' boarding schools, which comprised 26 (17.2%) respondents. Schools categorized as boarding/day girls had 15 (10%) respondents while those classified as mixed/day/boarding had 11 (7.3%). respondents A smaller proportion of respondents are drawn from mixed boarding schools, which represent 7 (4.6%) teachers and boarding/day boys' schools, which have the least representation at 5(3.3%) respondents. Overall, the results show that respondents are drawn from a variety of school types, with a higher concentration

in mixed day and single-sex boarding schools. This distribution suggests a diverse school context, which may enhance the generalization of the study findings across different institutional settings.

School Data

School data for the schools involved in the study was as shown in Table 2.

Table 2 Students performance in Kenya Certificate of Secondary Education examination in Homa bay County, 2024 (n=151)

Mean Score	Frequency (f)	Percentage (%)
1.0 - 2.9	21	14
3.0 – 4.9	89	58
5.0 – 6.9	37	25
7.0 - 8.9	4	3
Total	151	100

From Table 2, it can be noted that majority learning institutions scored a mean score ranging from between 3.0 to 4.9 as reflected by 19 (58%) while those scoring between 7.0 to 8.9 were only 4 (3%). The table also show that 14% scored very low marks ranging from 1.0–2.9, This indicate the schools continue to produce students who miss out in joining higher learning institutions that help to make them be productive. Only 4(3%) schools managed to achieve to attain higher performance mean scores of between 7.0–8.9, while no schools recorded highest performance category above 8.9. This is an indication that there is huge disparity in students’ academic performance between the different schools since some continue to fail in examinations as other continue to pass their examinations. The general mean score for the Homa Bay County students’ performance therefore lie between (3.0–6.9) in the 2024 Kenya Certificate of Secondary Education examination an indication that most schools in Homa Bay County performed within the low to average. This performance is supported by Kenya National Examination Council (2025) report that showed 48,000 students scored grade E mean range below 3.0 and only 25% managed to get an average mean score for university admission in Kenya. These results also show that the schools continue to perform with individual disparities within schools as national schools with better educational resources to implement curriculum continue shine in academic outcome while smaller day Sub County school with severe shortage of educational resources schools that are poorly resources continue to fail in national examinations.

Research objective

The research objective was to establish the influence of physical educational resources on quality of education in public secondary schools in Homa bay County, Kenya.

In order to address this objective, data was collected from respondents on the status of physical facilities and students’ performance in KCSE from the respective schools. The collected data was subjected to descriptive and inferential analysis. The results were as shown in Tables 3, 4 and 5.

Table 3 Influence of Physical Educational Resources on Quality of Education as rated by Form Four class teachers (n = 151)

Physical Resources		Ratings					Total	Mean Rating
		1	2	3	4	5		
School fence	F	10	9	43	65	22	149	3.54
	Score	10	18	129	260	110	527	
	%	6.7	6.0	28.9	43.6	14.8	100	
Toilet/washroom	F	4	9	36	74	26	149	3.73
	Score	4	18	108	296	130	556	
	%	2.7	6.0	24.2	49.7	17.4	100	

Playgrounds;	F	13	9	38	43	46	149	3.67
	Score	13	18	114	172	230	279	
	%	8.7	6.0	25.5	28.9	30.9	100	
Staff offices;	F	1	17	18	58	55	149	4.00
	Score	1	34	54	232	275	352	
	%	7	11.4	12.1	33.9	36.9	100	
School furniture	F	9	8	20	65	47	149	3.89
	Score	9	16	60	260	235	580	
	%	6.0	5.4	13.4	43.6	31.5	100	
laboratory	F	0	0	11	69	69	149	4.39
	Score	0	0	33	276	345	254	
	%	0	0	7.4	46.3	46.3	100	
Library	F	1	4	26	68	50	149	4.09
	Score	1	8	78	272	250	609	
	%	0.7	2.7	17.4	45.6	33.6	100	
Classrooms	F	2	7	26	56	58	149	4.08
	Score	2	14	78	224	290	608	
	%	1.3	4.7	17.4	37.6	38.9	100	
Dormitories	F	0	5	33	52	49	149	3.91
	Score	0	30	99	208	245	582	
	%	0	10.1	22.1	34.9	32.9	100	
Overall Mean Rating								3.92

Key: F – Frequency %- Percentage

Interpretation of Mean Rating

1.00 - 1.44 = No influence,

1.45 – 2.44 = Low influence,

2.45 – 3.44 = Moderate influence,

3.45 – 4.44 = High influence,

4.45 – 5.00 = Very High influence

From Table 3, all the physical educational resources that were assessed, laboratory recorded the highest mean rating of 4.39. This indicates that most respondents strongly agreed that schools those posses adequate laboratory results in achieving high academic performance in national examinations. Ultimately this result indicates inadequacy of laboratory resources may therefore hinder learners’ ability to engage in practical experiments, thereby affecting overall academic performance in science-related subjects due to the fact that higher input in educational resources produce a corresponding greater output in terms of student achievement. This result is supported by Daily nation (2024) that indicated learners attending school that have important academic amenities like laboratory perform better than their counterpart who lack such significant resources

Schools that have adequate laboratory for all the subject that need practical activities had higher ratings in terms of student’s performance because science subjects require well-equipped laboratories that has all the needed apparatus, equipment and chemicals. Focus group discussion also showed laboratory are essential physical resource that help the students to apply the theory learned in class into practical hence, reinforce learning by demonstration and observation. Further, it was found that chemicals, apparatus, teaching models and materials for revision if present and adequate in schools improve the students’ scientific skills. Closely following the laboratory was the library with a mean rating of 4.09. This result also indicates that adequacy of library resources

had high influence on quality of education in terms of students' academic performance. This suggests that library facilities are significant physical resources in schools and students' accessibility and utilization of the library improves their learning effectiveness as the library is used in supporting students' independent learning and teacher's academic research during lesson preparations. This also implies that schools that had enough library performed well in examination because library improve language and communication.

Library and laboratory are therefore important component of educational resources that significantly influence the quality of education as they are meant to enhance learning in schools by improving students' performance in academics. These findings conquer with those of Mang'uu, Maithya and Kimani (2021) who in their study found that availability of the adequate educational resources like fully-equipped laboratories and comprehensive libraries led to successful teaching and learning that culminated into high students' academic achievements in national examinations. Ongere and ogochi (2023) also found that laboratory enhance practical lessons that promote students' achievement in academics. Further, it was established that classroom had also a higher mean with a rating of 4.08, an indication that classroom had higher influence on quality of education in Homa Bay County. Although classrooms recorded a positive higher mean rating, indicating higher influence on adequacy, the observation schedule indicated that schools in Homa Bay county still experience challenges related to classroom space, congestion, or quality of classroom structures.

Staff offices were also rated high in its association with education quality with mean rating of 4.0, an indication that adequacy and spacious staff offices positively influenced students' academic achievements, as the offices were storage of educational resources, enhance teachers' preparations to lessons as well as provide place where teachers hold meetings related to students' achievements. Higher mean rating for staff offices also imply that administrative physical resources such as staff offices are adequate and in place to support effective school management that result in accomplishment of the objectives. This therefore improved education quality in secondary schools. From overall result, it is evident that laboratory, library, classrooms, and staff offices, basic academic tools were rated to have high influence on educational quality with a mean rating of more than four an indication that they increase the performance in national examinations such as Kenya Certificate of Secondary Education. This finding was supported with findings of Nduta et al. (2023) that indicated that modern classrooms, library and laboratory provide students with conducive learning environment that enhance their academic achievement. This finding concurs with interview from principals who indicated that library do not only help learners to learn language and communication; it also helps the learners to learn about their culture hence improving discipline and self-esteem. Library also act as resource centre to do references even through internet for those with online library. Those with laboratory also performed well because laboratory reinforce learning by providing practical and technical skills while classrooms provide the learners with the conducive environment to learn.

Playgrounds had high influence with a mean rating of 3.67. This means that they enhance co-curricular activities like ball games, athletics, gymnastics, chess, netball among others. The implementation of the co-curricular activities in turn enhance teaching and learning of students by improving on their stamina and ensuring they are always active and alert in class and outside class. They also enhance students' critical thinking, creativity, cooperation and collaboration, skills that are important in promotion of quality education. Playing also help to develop and improve language because they must be able to communicate during play. Play also help the learners to develop talents that may be useful later in life.

Dormitories had high mean rating, suggesting that boarding facilities are fairly adequate in boarding schools and have high influence on students' academic achievement. Dormitories ensure safety of the students from unfavourable weather, physical attacks from outsiders and a conducive environment for learners to have adequate rest in the night in readiness for learning the following day. Besides, they help to guard against distractors, which would otherwise be explained if the learners were day scholars. Moreover, they foster learners' concertation on learning which is the main objective of schooling.

The educational resources that is, school fence, toilets/washrooms and school furniture which are ordinarily not thought of as key in provision of quality education were rated high meaning that they play a critical role in provision of quality education by ensuring that the learners are comfortable not only in classrooms but also outside classroom's environment. The comfort is very important as the learners appreciate the schools in terms

of fellow learners and teachers while considering the outsiders that is, the community around the school as essential to their welfare indirectly.

The overall findings indicate that aspects of physical educational resources had varying levels of disparities in terms of adequacy of educational resources across different categories of physical resources, with an overall mean rating of 3.24, Meaning that physical resources have moderate positive influence on education quality in Homa Bay County secondary learning institutions. This was also sentiment from Baafi (2020) that indicated schools that have better physical environment performed better than those with poor physical environment in academic performance, classrooms and dormitories that house the children and prevent them from harsh weather conditions, school furniture that provide the learners with the comfort of learning and toilets/washrooms that are basic amenities in schools. These findings suggest that sanitation facilities and classroom furniture are relatively well provided in most schools, contributing positively to the learning environment. This is also an indication that basic physical facilities related to academics are highly valued and prioritized in schools because their adequacy influence the quality of education. These findings concurs with those of Omusula (2025) who found that physical educational resources are significant in students' achievements, however, physical educational resources such as laboratories, libraries, and sanitation resources were inadequate and **dilapidated** in most schools.

Regression analysis was computed in order to establish the influence of physical educational resources on quality of education. Data in Table 2 students academic performance was regressed against data in Table 3 on physical educational resources. The results were as presented in Tables 4, 5, and 6.

Table 4 Regression Analysis on the influence of Physical Educational Resources and Quality of Education

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig.F Change
1	.363 ^a	.131	.075	1.3210362	.131	2.338	9	139	.017

- Dependent Variable: Quality of Education
- Predictors: (Constant), Physical Educational resources

Table 4 indicate that physical educational resources had significant influence on quality of education as signified by p- value of 0.017, which was less than 0.05. Therefore, the null hypothesis was rejected. Physical educational resources accounted for 7.5% of the variation in the quality of education. The other 92.5% was due to other factors that were not subject of this study. The physical educational resources included laboratory, library, dormitory, school fence, staff offices, toilets/washroom, playgrounds, school furniture and classrooms.

In order to establish whether physical educational resources were significant predictors of quality education, ANOVA was computed and the results presented in Table 5

Table 5 Analysis of Variance Output on the Influence of Physical Educational Resources on Quality of Education

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.723	9	4.080	2.338	.017 ^b
	Residual	242.574	139	1.745		
	Total	279.297	148			
a. Dependent Variable: Quality of Education						
b. Predictors: (Constant), Physical educational resources						

The results in Table 5 revealed that physical educational resources were significant predictors of quality education in terms of students' performance in Kenya Certificate of Secondary Education examinations $F(9, 139) = 2.338$, $p < 0.05$. Physical educational resources could be relied upon to predict the quality of education in terms of student performance in examination.

To confirm the physical educational resources that significantly influenced the quality of education multiple regression analysis was computed and the results were as presented in Table 6.

Table 6 Multiple Regression Analysis of the influence of Physical Educational Resources on the Quality of Education

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	3.946	1.002	-	3.939	.000
	X ₁ - Playgrounds	.095	.119	.072	.797	.427
	X ₂ - Staff offices	.141	.131	.094	1.081	.282
	X ₃ - Libraries	.161	.093	.143	1.723	.047
	X ₄ -Laboratories	.411	.122	.301	3.359	.001
	X ₅ -School fence	.040	.107	.032	.370	.712
	X ₆ -Classrooms	.360	.194	.163	1.859	.045
	X ₇ -Toilet/Washrooms	.254	.181	.152	1.401	.163
	X ₈ - School furniture	.197	.153	.134	1.287	.200
	X ₉ -Dormitories	.301	.141	.214	2.127	.035

a. Dependent Variable: : Quality of Education, Regression Equation $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \epsilon$

From Table 6, it can be noted that the physical educational resources that significantly influence the quality of education were libraries, laboratories, classrooms and dormitories. The regression model therefore is, $Y = \beta_0 + \beta_1 X_3 + \beta_2 X_4 + \beta_3 X_6 + \beta_4 X_9$. This implied that one unit increase in libraries will improve quality of education by 0.161 units, one unit increase in laboratory will improve quality of education by 0.411 units, one unit increase in classrooms would improve quality of education by 0.360 units and one unit increase in dormitories would improve quality of education by 0.301 units as signified by the coefficients 0.161, 0.411, 0.360 and 0.301 respectively. Playgrounds, staff offices, toilet/washrooms, school furniture and school fence had no significant influence on quality of education. This means that these educational resources cannot be statistically be relied upon to predict the quality of education.

DISCUSSION

The higher number of male class teachers in the County can be explained by the obligations added to the post of a class teacher. This also means that schools entrust the post of class teacher to male teachers than female. This may be the reason as to why most schools including the girls' schools that should otherwise have female class teachers have male teachers. This was affirmed by one principal during the interview who stated that the work of a class teacher has increased these days, such that besides teaching and checking on discipline, class teachers have to attend to students during sports, science congress and other activities that students undertake outside the school; the tasks female teachers cannot cope with. The role of a class teacher is therefore dominated by male teachers who are able to attend to the children even at odd times.

Library facilities are significant physical educational resources in schools and students' accessibility and utilization of the library improves their learning effectiveness as the library is used in supporting students' independent learning and teacher's academic research during lesson preparations. This also implies that schools that had enough library performed well in examination because library improve language and communication. Library and laboratory are therefore important component of educational resources that significantly influence the quality of education as they are meant to enhance learning in schools by improving students' performance in academics. The findings are similar to Mang'uu, Maithya and Kimani (2021) research that found that availability of the adequate educational resources like fully-equipped laboratories and comprehensive libraries leads to successful teaching and learning as such resources enhances students' academic achievements in national examinations. Ongere and ogochi (2023) also indicated that laboratory enhance practical lessons to promote students' achievement in academics.

From overall results, it is evident that laboratory, library, classrooms, and dormitories had significant influence on quality of education an indication that they enhanced the performance in national examinations such as Kenya Certificate of Secondary Education. This result was supported with findings of Nduta et al. (2023) that indicated that modern classrooms, library and laboratory provide students with conducive learning environment that enhance their academic achievement. This finding concur with interview findings as principals emphasised that Library did not only help learners to learn language and communication; it also helps the learners to learn about their culture hence improving discipline and self-esteem. Library also act as resource centre to make references even through internet for those with online library. Those with laboratory also performed well because laboratory reinforce learning by providing practical and technical skills while classrooms provide the learners with the conducive environment to learn.

With the regard to the fact that physical educational resources influence quality of education, there is need for targeted investment and policy attention to strengthen under-resourced areas, particularly those that directly influence teaching and learning effectiveness such as laboratories, library, school staff offices, playgrounds among others to ensure that they are adequately provided in schools for improved quality education. This was supported by Too, et al., (2024) that state of current educational resources and availability in schools were inadequate for effective implementation of quality education due to insufficient buildings, classrooms, and other specialized educational resources needed for delivery quality education in schools. This inadequacy in educational resources extended to even crucial educational resources that are necessary for student teaching and meeting requirements of curriculum as well outdoor play spaces, an indication of broader challenges faced by schools in provision of support for learning environment. These also indicate an urgent need for targeted evaluations of adequacy educational resources in public secondary schools to understand the actual influence the physical resources have on quality of education in Homa Bay County secondary schools.

Eruhurdjako and Kpee (2024) believed that condition of school physical facilities produces greater influence on education qualities in terms of academic performance in examinations. Ayangabi (2023) also found that school physical resources provide basis for the result needed by teachers. These may be due to the fact that these facilities reinforce learning or are used as practical application of the concept learned. Olayinka, Veronica and Oluwadara (2021) also argue that relationships exist between physical resources as well as student academic achievement as school resources play a vital role of supporting academic performance of students. Chahilu, et al., (2023) also claim there exist a significant positive difference in performance in public school where schools enough number of physical resources perform better in examinations than those struggling with severe shortage of essential physical resources. The findings were supported with interview from principal who argued that physical educational resources have significant influence on students' performance in Kenya Certificate of Secondary Education because other resources combine with the physical resources to blend learning that has all dimensions of knowledge. Schools that provide the teachers and student with adequate and well-conditioned physical resources motivate both of them to work hard for the examinations' results. This result is also sentiments by Baafi (2021) who concluded that students' schools that possess environment with good physical facilities have better examination achievement than schools that lack conducive environment for learning. This is an indication that schools' educational resources play very important role in ensuring that schools are learning and the learning objectives are achieved. Focus group discussion for students also indicated that physical resources significantly influenced quality education in terms of student's performance this therefore means schools with enough physical resources do better in examinations. This was also supported by principal interview that many people assume that physical resources are the only factors influencing the quality of education yet, there are many other factors like those related to teachers, school, community, parental, environmental and management factors. This implies that physical resources alone cannot explain quality of education.

Although physical educational resources significantly predict the quality of education, it is not the only factor affecting educational outcomes as other variables of educational resources such as teaching and learning resources, human resources, and infrastructures are most likely to influence quality of education in terms of Kenya Certificate of Secondary Education performance. This is also in agreement with the students' group discussion that argued that, physical resources could be of one among very many factors that can be used to determine the quality of education in public secondary schools in Homa bay County. This finding concurs with result of the study from Ewhurdjakpo and Kpee, (2024) on school physical resources influence on external examination achievement in schools and result indicated the condition of school facilities have corresponding

influence on students' performance in external examinations. Principal during the interview explained that library are very essential physical resources that need to be given priority during planning for acquisition of educational resources. The library plays a significant role of providing the learners with conducive learning environment as well as providing the reference materials for different learning areas in public secondary schools. Although all these critical variables such as toilet, fence and playground, had positive influence but lacked statistical significance influence on quality of education, their availability alone is not sufficient to influence academic performance as this may depend on utilization and adequacy. This indicate that quality education is not only anchored in the availability of educational resources, but also depend on critical perspectives such as adequacy and utilization of particular resources that are of great importance in influencing the quality of education.

From the findings, it therefore suggested that physical educational resources should not be viewed in isolation but rather in terms of combine functionality, availability, adequacy and utilization so as to improve the educational outcome. The statistically significant variables such as laboratory, dormitories, library, and classrooms have a common feature in that they influence direct instructional delivery that result in improved academic achievement. This implies that these vital academic resources have a greater influence in the students' academic performance and schools should [prioritize their utilization or adequacy to improve academic results in schools. Overall result therefore suggest that, while physical resources collectively contribute to educational quality in terms of academic achievement, their individual effects vary significantly. The results affirm the assumption that physical facilities such as laboratories and classrooms automatically lead to improved achievement in Kenya Certificate of Secondary Education. At the same time, schools should focus on improving the utilization and functionality of existing instructional resources to ensure that they effectively contribute to learner achievement. Schools that had adequate physical resources performed better in examinations as these resources contributed to quality education particularly in national examinations. The findings were echoed by the observation schedule and the interview from principal-19 who indicated that the school physical facilities such as laboratories, libraries, playgrounds, staff offices, classrooms, school fencing, toilets and washrooms, school furniture, and dormitories are very important but, some schools have varying levels of adequacy across different categories of physical resources and severe lack of essential resources is an increasingly causing concern. The government should be able to do the assessment and establish the available basic facilities in schools. School also to ensure they have adequate physical facilities.

The lack of laboratory is supported by the study from Sagwa et al., (2024) who projected senior secondary schools in 2026, in Kenya found higher senior secondary enrolment by 2026 will result in a deficit of 852 laboratories. These findings imply that science laboratories are insufficient, as the necessary number designated for each of the three natural science subjects: Biology, Chemistry, and Physics were not available. Additionally, it was discovered that the institutions lacked any language or geography laboratories. The absence of language laboratories has a detrimental impact on the capacity of students to effectively acquire communication and language skills. Students are unable to effectively acquire language proficiency due to the absence of a language laboratory, which prevents them from understanding the mechanics of speech production, including the function of articulator and the essential components of speech development.

In addition, it can be argued that other variables may be responsible for quality of education besides other factors. This was also echoed by principal during interview who argued that; Introduction of laboratories have replaced the physical laboratory. It has also become common to use mobile laboratories in schools to help learners do practical's. There are those schools that perform better than expected in Kenya Certificate of Secondary Education, because of well-equipped laboratory that has chemical and apparatus for experiment. This could mean that secondary schools ensure the provision of basic materials and apparatus to enable handling of practical's making them to perform well in the Kenya Certificate of Secondary Education even without physical laboratories. This also means their other resources other than laboratories are also important for provision of quality education. The result of the student focus group discussion also established same sentiments that physical resources is a factor that positively influence quality of education in terms of performance in Kenya Certificate of Secondary Education because most of the schools have already established physical resources and their adequacy is being checked by the government or the nearby communities.

In conclusion, it was found that the physical resource influenced quality of education in Homa Bay County. The result that physical resources influence quality of education has made schools to invest heavily on educational

resources to improve access and quality. Despite heavy investment on educational resources in most of the schools in Homa Bay County. Observation by the researcher indicated that most of the rural schools in Homa bay Count public schools were in desperate conditions as the most significant physical resources such as classrooms had corrugated iron roof, wooden roof that overhang above the corridor supported by steel girders that looked weak to hold the heavy roof. Classroom walls in some schools were made of bricks that were not plastered. Moreover, most of the schools in rural had had no electricity due of lack of transformer. Fully equipped laboratories and libraries were also missing in most of the schools and most of the library were not build with intention of being libraries. Playing rounds were small in some schools and some far from schools. Likewise, physical resources such as latrines were inadequate and did not meeting some of the ministry of health regulations. It was therefore important to assess the influence of physical resources as an objectives of educational resources on quality of education.

CONCLUSION

Physical educational resources influenced the quality of education by accounting for 7.5% of the variation in the quality of education. The physical educational resources that significantly influenced the quality of education were libraries, dormitories, classrooms and laboratory. The other educational resources contributed to quality of education but were not significant. These included playgrounds, staff offices, toilets/washrooms, school fences and furniture.

RECOMMENDATIONS

- i. The Boards of Management of schools should endeavour to improve on the physical educational resources in terms of quantity and quality so that the desired impact on quality of education can be achieved.
- ii. The Ministry of Education should increase the budget to education so that the required physical educational resources are required in every school through capitation.
- iii. Stakeholders, particularly Non-Governmental Organizations should be encouraged to upscale their contributions to physical educational resources, as they are significant partners in the provision of quality education.
- iv. Heads of Institutions should ensure that the available physical educational resources are used efficiently and effectively in enhancing the quality of education by ensuring that there is no wastage, vandalism and theft.
- v. Heads of Institutions should ensure that the physical educational resources are well maintained so that they are in functional states to the benefit of students' optimum utilization.
- vi. The Ministry of Education should strengthen monitoring and evaluation frameworks for ensuring efficiency and accountability in distribution and utilization of physical educational resources as well as investing in educational resources to enhance quality of education.

REFERENCES

1. Agbor, C. N., Onnoghen, U. N., Nwachukwu, P. O., & Esu, A. E. O. (2022). Influence of physical facilities on students' academic performance among undergraduate students of environmental education, University of Calabar-Nigeria. *Mediterranean Journal of Social Sciences*, 13(4), 31-41. <https://doi.org/10.36941/mjss-2022-0029>
2. Baafi, R. K. A. (2020). School physical environment and student academic performance. *Journal of Advances in Physical Education*, 10(2), 121–137. DOI: [10.4236/ape.2020.102012](https://doi.org/10.4236/ape.2020.102012)
3. Biswas, B., Majumder, S.C, (2026). Adequacy of resources and quality education: A study at selected public universities of Bangladesh. *Discov Educ* 5, (4) 1-29 <https://doi.org/10.1007/s44217-025-00999-1>
4. Cao, Y., Yao, X., & Zhang, G. (2025). How to assess global education quality: The global education quality index and its cross-national comparisons. *ECNU Review of Education*, 8(3), 779-802. <https://doi.org/10.1177/20965311251331107>
5. Casian, M., Mugo, L., & Claire, M. M. (2021). Impact of teacher' qualification on students' academic performance in public secondary schools in Rwanda. *Journal of Education*, 4(2). Retrieved from <https://stratfordjournals.org/journals/index.php/journal-of-education/article/view/786>

6. Chahilu, L. J., Chemagosi, J.M.& Sellah. L, (2023) Influence of physical resources on learners' educational outcomes in public pre-primary schools in Mombasa County, Kenya. *International Journal of Regional and International Scientific Research* 3(6) 1154-1169 DOI: <https://doi.org/10.47772/IJRISS.2023.7496>
7. Chetwynd, E., (2022). Critical analysis of reliability and validity in literature reviews. *Journal of Human Lactation*, 38(3), 392-396 <https://doi.org/10.1177/08903344221100201>
8. Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications <https://lcn.loc.gov/2017044644>
9. Education Commission of the States. (2021). *State education policy tracking*. Education Commission of the States. <https://www.ecs.org/>
10. Ewhrudjakpo, C. O., & Kpee, G. G. (2024). School facilities and students' performance in external examinations in public secondary schools in Bayelsa State, Nigeria. *BW Academic Journal*, 10(2), 22-28 Retrieved from <https://mail.bwjjournal.org/index.php/bsjournal/article/view/1769>
11. Fraenkel, R.J., & Wallen, E.N. (2009). *How to design and evaluate research*. Illinois: F.E. Peacock Publishers, Inc.
12. Hanushek, E. A. (1986). The economics of schooling: Production and efficiency in public schools. *Journal of Economic Literature*, 24(3), 1141–1177.
13. Hawkins, G. T., Chung, C. S., Hertz, M. F., & Antolin, N. (2023). The school environment and physical and social-emotional well-being: Implications for students and school employees. *Journal of School Health*, 93(9), 799–812. DOI: 10.1111/josh.13375
14. Kenya Institute of Curriculum Development. (2022). *Competency-Based Curriculum Implementation Framework*. Nairobi: KICD.
15. Khawla, S. S., & Abdul, H. M. E. (2006), The relationship between school laboratory experiments and academic achievement of Palestinian students in introductory University science courses. *Research in post – compulsory Education*. 4 (1), 87-96
16. Kibirige, R., Lutalo, B., & Saabavuma, C. (2025). Effective use of learning materials and its impact on students' academic performance in secondary schools in Mpigi District, Uganda. *African Quarterly Social Science Review*, 2(1), 123-132. <https://doi.org/10.51867/AQSSR.2.1.10>
17. Mang'uu, N., Maithya, P., & Kimani, M. (2021). Effects of availability of teaching and learning resources on teacher performance in public secondary schools in Kitui County, Kenya. *International Journal of Research and Innovation in Social Science* 8(I) 4, 1154-1169 DOI:10.47772/IJRISS.2023.7496
18. Magwaga, N & Kikechi, R. (2024). Physical facility availability and students' academic performance in public secondary schools in Trans Nzoia East Sub-County, Kenya. *African Journal of Empirical Research*. I(5) 780-790. 10.51867/ajernet.5.4.65.
19. Mbogo, S. M. (2023). Influence of educational resources on quality of education in public day secondary schools in Embu County, Kenya (Doctoral dissertation). University of Nairobi. <http://erepository.uonbi.ac.ke/handle/11295/164309>.
20. Mohamed, A. A., & Chui, M. M., (2025), Influence of provision of resources practices on students' academic performance in public secondary schools in Wajir North Sub-County, Kenya. *Journal of Research & Method in Education* 15 (2), 2320-7378 DOI:10.9790/7388-1502033745
21. Mugenda, O.M., & Mugenda, A.G. (2003) *Research Methods, Quantitative and Qualitative Approaches*. ACT, Nairobi.
22. Nduta, B.G., Itegi.F. M & Muchanje, P.N (2024). Influence of management of physical facilities on quality of education in selected private universities in Kenya. *Journal of Education and Practice* 8(3), 26 – 35 <https://orcid.org/0009-0007-1945-7907>
23. Ngulutu, N. K., Mulwa, J., Mwanja, J. M., & Mwanzia, R. (2026). Effect of teaching and learning resources on academic performance in public secondary schools in Kitui County, Kenya. *Journal of Popular Education in Africa*, 10(3), 17 – 31.
24. Oswago, V. O. (2021). Availability of teaching and learning resources and students' performance in Kenya Certificate of Secondary Education physics in public secondary schools in Ndhiwa Sub-County, Homa Bay County (Doctoral dissertation, University of Nairobi).
25. OECD (2020), *Education at a Glance 2020: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/69096873-en>

26. OECD. (2020). *Education in South Africa: Policy and performance*.
27. OECD (2022), *Education at a Glance 2022: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/3197152b-en>.
28. OECD (2023), *Country Digital Education Ecosystems and Governance: A Companion to Digital Education Outlook 2023*, OECD Publishing, Paris, <https://doi.org/10.1787/906134d4-en>
29. OECD (2024), *Education at a Glance 2024: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/c00cad36-en>
30. OECD (2024), *OECD Economic Outlook, Volume 2024 Issue 2*, OECD Publishing, Paris, <https://doi.org/10.1787/d8814e8b-en>.
31. OECD (2024), *PISA 2022 Results (Volume IV): How Financially Smart Are Students?*, PISA, OECD Publishing, Paris, <https://doi.org/10.1787/5a849c2a-en>.
32. OECD (2025), *OECD Review of Digital Education Policy in the Netherlands, OECD Reviews of School Resources*, OECD Publishing, Paris, <https://doi.org/10.1787/91118813-en>.
33. Olayinka, O. S., Veronica, O. B., & Oluwadara, O. A. (2021). Influence of school facilities on students' academic performance in basic science and technology in junior secondary schools in Osun State, Nigeria. *International Journal of Innovative Research and Technology* 10(2), 181-184. <https://doi.org/10.24940/IJIRD/2021/V10/I2/FEB21037>
34. Ongere, R. N. & Ogochi, G. (2023). Assessment of the school resources availability in Public Day Secondary Schools in Kenya: Case of Manga Sub-County. *East African Journal of Education Studies*, 6(3), 287-296. <https://doi.org/10.37284/eajes.6.3.1561>.
35. Sukurieth, M. A. & Kitula, P. R (2022). Availability of physical infrastructure and its influence on the quality of education in public secondary school in Arusha District, Tanzania. *Journal of Research Innovation and Implications in Education*, 6(3), 400 –409
36. Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2021). *Using multivariate statistics (7th ed.)*. Pearson.
37. Takona, J.P, (2022) *Research design: qualitative, quantitative, and mixed methods approaches sixth edition*. Qual Quant 58, 1011–1013 (2024). 023-01798-2
38. Too, B. C., Kipkoech, L. & Keter, J. (2024). Level of infrastructure and resource preparedness in the implementation of competency-based curriculum in public primary schools in Baringo County, Kenya. *Journal of Research Innovation and Implications in Education*, 8(3), 437 – 445. <https://doi.org/10.59765/pdcbr3947>.
39. Tunde, A. (2022). Educational resources availability and utilization as determinant of students academic performance in South West Nigeria. *African Journal of Education and Practice*, 8(5), 45–63. <https://doi.org/10.47604/ajep.1636>
40. Ubogu, R. (2024). Supervision of instruction: a strategy for strengthening teacher quality in secondary school education. *International Journal of Leadership in Education*, 27(1), 99-116, DOI - 10.1080/13603124.2020.1829711
41. UNICEF. (2021). *Key asks 2021: National reviews - SDG 4 quality education*. UNICEF. <https://www.unicef.org/documents/key-asks-2021->
42. UNESCO. (2005). *EFA global monitoring report: Education for all – The quality imperative*. UNESCO. DOI:<https://doi.org/10.54676/CLEA4672>.
43. UNESCO. (2014). *Teaching and learning: Achieving quality for all*. UNESCO.
44. UNESCO. (2022). *Global education monitoring report: China*. UNESCO.
45. UNESCO. (2022). *Global education monitoring report: India*. UNESCO.
46. UNESCO. (2023). *Education for sustainable development: A roadmap*.
47. <https://doi.org/10.54675/YFRE1448>
48. UNESCO. 2024. *Global Education Monitoring Report 2024/5: Leadership in education – Lead for learning*. Paris, UNESCO. <https://doi.org/10.54676/EFLH5184>
49. Wenjuan, D., & Dorado, L. B. (2021). Influence of physical and social environment in relation to academic performance of university students in the new normal context. *Philippines journals*, 1(85), 2599-5294.
50. Waseka, E. L., Simatwa, M. W & TO, O.(2016) Influence of teacher factors on students' academic performance in secondary school education. A case study of Kakamega County, Kenya. *Greener Journal of Educational Research*. 6 (4), 151-169r .DOI: <http://doi.org/10.15580/GJER.2016.4.060216102>
51. Wuripe. A & Kankpog, E. B. (2024) Influence of Physical Facilities on Students' Academic

- Performance in University for Development Studies, Tamale, Ghana. *Journal of Education and Practice* 15, (11) 2222-1735DOI: 10.7176/JEP/15-11-09
52. World Bank. (2020). *Nigeria education sector analysis: Equity and quality in education*.
 53. World Bank. (2020). *Education for development: World Bank's approach to quality education*.
 54. World Bank. (2021). *China education policy review: Enhancing quality and equity in education*.
 55. World Bank. (2021). *India education policy review: Challenges and opportunities*.
 56. World Bank. (2024). *The importance of education for development*.
<https://www.worldbank.org/education>
 57. World Economic Forum. (2020). *The future of education: A global perspective*.
 58. Yangambi, M. (2023). Impact of School Infrastructures on Students Learning and Performance: Case of Three Public Schools in a Developing Country. *Creative Education*, 14, 788-809.
<https://doi.org/10.4236/ce.2023.144052>
 59. Yajun,W. (2024). Educational equity and resource allocation from an international comparative education perspective. *Journal of Education, Humanities and Social Sciences* 2(44) 42-47},doi .10.54097/we9x1g23
 60. Yolanda, P. B. (2014). Determinants of high academic performance in secondary schools in Kilimanjaro Region.(Unpublished masters thesis)
 61. Yutchman, E., & Seashore, S. (1967). A system resource approach to organizational effectiveness, *American Sociological Review*,1(32)891- 903