

The extent of implementation of Competency-based education in Public and Private Junior Secondary Schools in Mbita, Kenya

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Abstract

The implementation of Competency-Based Education (CBE) in Junior Secondary Schools (JSS) in Kenya has introduced significant reforms aimed at promoting learner-centered pedagogy, practical skill acquisition, and holistic development. This study examines the extent to which CBE has been implemented in both public and private JSS. Using a descriptive research design, the study drew data from teachers, school administrators, learners, and quality assurance officers to identify successes, disparities, and challenges across different school contexts. Findings reveal that CBE full implementation remains uneven. Public schools face persistent constraints such as inadequate infrastructure, limited instructional materials, high teacher workload, and inconsistent teacher training. Conversely, private schools demonstrate relatively better resourcing and flexibility, though they also struggle with curriculum standardization and teacher capacity gaps. The study is significant as it provides data to the field of comparative and international education. Hence, it contributes to the growth of knowledge on CBE policy. The study concluded that effective CBE implementation requires strengthened teacher professional development, equitable resource allocation, enhanced monitoring, and improved collaboration between government, the private sector, and community stakeholders. Recommendations are offered to support sustainable and inclusive CBE rollout across all Junior Secondary Schools in Mbita, Kenya.

Keywords: Approaches, Competency based, Critical thinking, Junior secondary resources

1. Introduction

In 1948, the United Nations Assembly resolved that education is a core human right. Individuals' educational aspirations demanded a quality education that meets the social, economic, cultural, religious, and political needs of citizens. Various studies indicate that the UN enacted international protocols to promote quantitative and qualitative education [1][2][3][4][6][7][8][7][8][9][10][11][12][15][16][17][18][19]. The protocols included Education for All (EFA) and Sustainable Development Goals (SDGs). These documents emphasized the importance of quality education. UN member states were required to enact policies that would ensure the realization of inclusive and high-quality education. This imperative has led many educational systems worldwide to embrace Competency-Based Education (CBE). This pedagogical model shifted focus from rote memorization and time-based progression to the explicit demonstration of skills, knowledge, and attitudes [12][14].

Article history:

Received (March 20, 2026), Review Result (April 21, 2026), Accepted (May 28, 2026)

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CBE highlights practical application, communication, collaboration, digital skills, and problem-solving. Various factors affect school CBE success. Private and public schools have different contexts that affect CBE. These environments influence curriculum, resources, and teacher training, affecting student results. Thus, policymakers and educators trying to improve CBE across varied school environments must recognize these disparities. Inadequate facilities limit practical learning opportunities, consequently hindering the acquisition of competencies beyond theoretical understanding [15].

Globally, developed countries addressed crucial issues in the promotion of CBC. In the United States, schools in both public and private sectors have upgraded their infrastructure, trained their instructors often, and integrated technology into their CBE programs to achieve CBE criteria. According to Scheopner et al [16], to help students become more self-reliant, teachers should take on more of a mentoring, coaching, design, and facilitation role. The school environment was therefore crucial for the successful acquisition of competency skills.

In sub-Saharan Africa, socio-economic issues frequently mitigate the effect of school-based factors on digital competency development. According to [8][9][10][11], there are several problems that hinder acquisition of digital skills in sub-Saharan Africa. In light of this unreliable power, slow internet, and absence of digital equipment affect learning negatively. Notwithstanding these challenges, some African countries are making strides to incorporate ICT into the classroom. This initiative is implemented through programs that provide students with tablets or set up community technology centers.

Kenya tackled the challenge of quality education by restructuring its educational frameworks and curriculum. The Kenya Institute of Curriculum Development (KICD) Act No. 4 of 2013 [3] was amended to meet CBC requirements. The curriculum incorporates 21st-century skills, which are essential for success in contemporary society. KICD had to establish a framework for the implementation of the new curriculum, CBC. CBC prioritized the cultivation of competencies over the mere acquisition of topic knowledge. Essential components of CBC include skill development, infrastructure, instructional materials, and effective student assessment methods.

According to the County Education Office (CEO), Mbita sub-county comprised 12,332 students in public junior schools and 1,312 teachers. The high enrolment overwhelmed school resources. Due to the substantial student enrolment in the sub county, meeting CBE criteria presents a problem. According to Akinrinola et al. [2], insufficient resources compromised the consistency of CBC practice. Hence, there is ambiguity over the execution of CBE in public junior schools, resulting in the rise of private junior schools. Addressing deficiencies of resources in public and private junior secondary schools promotes CBE implementation in both public and private Junior Secondary schools within Mbita sub-county.

2. Problem of the study

With the introduction of CBC in Kenya, legal frameworks were enacted for effective implementation of the system. The National Treasury allocated funds to ensure efficiency. Despite these initiatives, implementation of CBE in Kenyan Junior Secondary Schools, remains a significant challenge in both public and private institutions. However, many schools struggle to translate these goals into classroom practice. There are limited resources to promote competency-based curriculum. Many teachers report difficulties in designing performance-based assessments, facilitating project-based learning, and integrating cross-curricular competencies. Private junior secondary schools, while often better resourced, face

their challenges. These include inconsistencies in teacher preparedness and variations in the interpretation of CBE requirements.

Hence, there is a need to investigate the factors affecting the implementation of CBE in junior public and private secondary schools in Kenya. The first objective that guided this study examined the availability of physical facilities in public and private junior secondary schools. The third objective assessed how instructional materials impact the attainment of CBE standards. Therefore, the identification of challenges, gaps, and opportunities for achieving quality learning outcomes will be conducted.

3. Related literature review

3.1. School physical facilities and attainment of CBE

Physical infrastructure plays a crucial role in the implementation of CBC. Subsequently, Global Education reform initiatives focus on school infrastructure and Competency-Based Education (CBE) with the purpose of advancing adaptable student-focused and technology-enhanced learning environments. These features facilitate personalized learning and diverse teaching strategies critical for skill mastery. Various studies indicate that competency-based learning requires adaptable classroom environments to facilitate various activities [7][8][9][10][11]. The activities include group discussions, project work, and individual exploration. Therefore, institutions featuring contemporary classrooms, libraries, and recreational facilities demonstrated increased student engagement and mastery of competencies. Students in well-maintained classrooms equipped with appropriate technology demonstrated enhanced learning outcomes and increased engagement. Moreover, studies have established a correlation between access to extensive physical infrastructure and enhanced learning achievement [1][5][10][15][16]. Hence, physical facilities play a leading role in the acquisition of skills. Overcrowded classrooms hinder student participation in collaborative projects and restrict movement for hands-on activities.

According to Sitenei [17], public secondary schools are deficient in the physical infrastructure required for delivering quality education when compared to private secondary schools. This correlates with Mackatiani [13], who established that public secondary schools had inadequate physical facilities. In light of this lack of physical infrastructure, it renders the development of scientific inquiry skills, digital literacy, and research competencies largely theoretical and aspirational, rather than practical. The deficiency, therefore, accounts for differences in student academic performance. This research seeks to address the deficiency by examining physical facilities in junior schools.

3.2. ICT Infrastructure and attainment of CBE

A robust and well-maintained Information and Communication Technology (ICT) infrastructure, which includes hardware (computers, tablets, interactive whiteboards), software (learning management systems, adaptive learning tools), network connectivity (high-speed internet, Wi-Fi), and technical support, is crucial for the successful attainment of CBE standards. The U.S. government has implemented a comprehensive ICT policy to facilitate its use in schools, as demonstrated by Wang [18]. He also said that ICT allowed people to learn at their pace, receive tailored content, and get personalized feedback. Hence, it effectively addressed the varied learning requirements present in CBE. The study indicated that schools with strong ICT infrastructure reported increased student engagement. Students in schools

with modern ICT resources demonstrated increased engagement and a higher likelihood of taking ownership of their learning [5].

According to Zheng [20], schools employing advanced ICT tools offer immediate feedback to students, enabling adjustments in learning strategies and improving conceptual understanding.

In light of these findings, Mackatiani and Likoko [11] reported that teachers in sub-Saharan Africa do not integrate technology into their teaching methods. Mackatiani [14] further noted that in sub-Saharan Africa, education models are skewed towards examinations. Examination-oriented models don't emphasize the importance of leveraging resources. The deficiency adversely affects the quality of interactions between teachers and students. Various researchers note that teachers demonstrate resistance to ICT integration due to lack of infrastructure [5][12][18]. Mackatiani et al. [9] correlate the same. This resistance may hinder the potential benefits of ICT in improving interaction and collaboration among educators and learners. According to Mackatiani and Likoko [11], the internet is the primary component of e-learning. Most rural schools have undependable internet access. This implies that schools cannot implement eLearning. However, studies indicate Kenya has started integrating ICT [4]. Students in ICT-integrated environments exhibit improved performance in subjects like mathematics and science.

3.3. Instructional materials and achievement of competency-based education

Instructional materials are crucial for implementation of CBC. Globally, in developed countries, the presence of instructional materials in schools is emphasized. Public schools possessed enough instructional resources [15]. This finding was an indication that instructional resources promote CBE. In light of this, it was revealed that it was over 89 percent of schools utilized textbooks in their educational practices. Hence, problem-solving activities and collaborative work are encouraged. Instructional materials also enable learners to practice and exhibit their evolving skills. Uses of textbooks feature problem-solving exercises and critical thinking. Furthermore, it was noted Brazil and Denmark utilized adaptive learning platforms, which have enhanced student engagement by offering customized instructions that facilitate skill mastering, a fundamental aspect of Competency-Based Education (CBE). Instructional resources facilitate individualized pacing and differentiated instruction crucial for competency-based education (CBE). They furnish prompt feedback; enable students to review lessons until they attain mastery, and present diverse content types, such as films, simulations, and interactive exercises. These elements immediately facilitate each student's progress toward achieving proficiency.

In sub-Saharan Africa, the educational framework is undergoing a substantial shift, as numerous countries are increasingly implementing Competency-Based Education [1][8]. This modification is motivated by the pressing necessity to furnish learners with vital 21st-century competencies that apply knowledge, which tackle local issues and advance national development objectives. In this dynamic context, instructional materials (IMs) comprising textbooks, digital platforms, manipulative, and real-world case studies serve not merely as teaching aids but as essential elements of competency-based education (CBE) implementation. The effective implementation of CBE relies on the strategic design and utilization of materials like textbooks, digital resources, manipulative, real-world objects, and evaluation tools. These tools effectively enhance learning by influencing the introduction, practice, assessment, and attainment of competencies. South Africa and Kenya are more likely to incorporate digital instructional materials. This digital divide directly affects self-

efficacy that promotes development Competency-Based digital literacy and other 21st-Century skills. It is emphasized that competency-based instructional materials promote imagination and self-efficacy use by teachers.

According to various studies conducted in Kenya on the influence of instructional materials, a positive relationship was found between the availability and use of instructional materials [1][8][9][10][11]. Additionally, Sitenei [17] found that 78 percent of public secondary schools do not use supplementary materials such as videos in their teaching, compared to their counterparts in private secondary schools. This was an indication that there was deficiency, in the implementation of CBC. Furthermore, Sitenei [17] established that 92 percent of public schools lacked enough instructional materials for CBC. As a result, teachers' negligence in using instructional materials negatively impacts content delivery.

Independent Variables

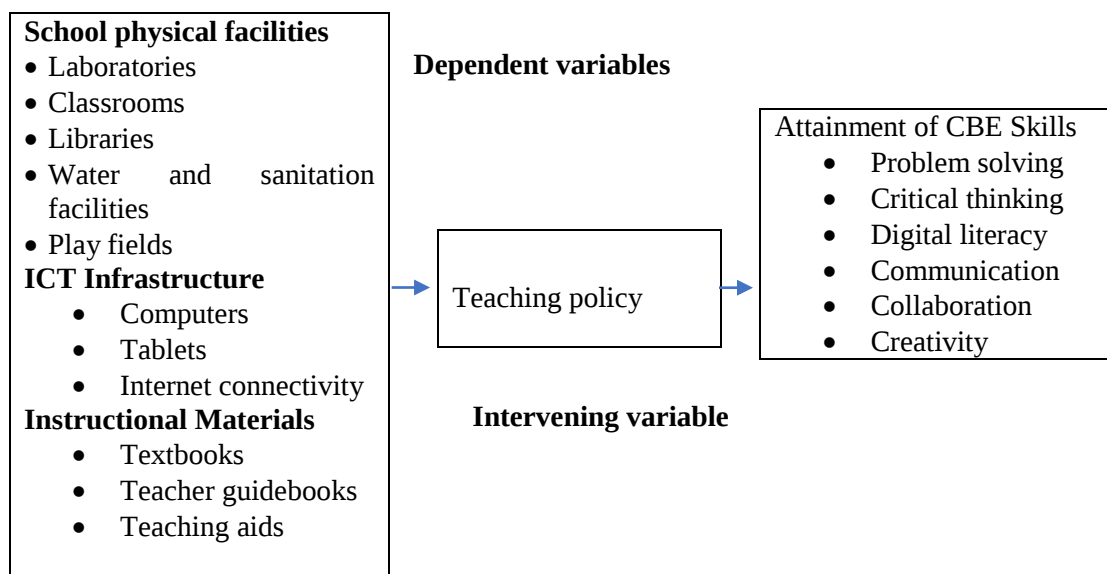


Figure 1. Conceptual framework

4. Methodology

The study utilized a mixed-methods approach, integrating both quantitative and qualitative techniques. This combination enabled a comprehensive understanding of the research topic by merging quantitative data with human experiences and perspectives. The study targeted 22 public junior secondary schools and 7 private junior secondary schools in Mbita subcounty, Kenya. The target population for respondents was 29 head teachers, 29 directors of studies officers, and 1,481 students. The research employed the Krejcie and Morgan sampling table and ascertained a census sample size. Hence, the sample size included 29 institutions, comprising 22 public Junior Secondary Schools (JSS) and 7 private JSS. Besides, 29 head teachers and 29 Directors of Studies (DOS) were provided by each institution. Furthermore, the research will involve 449 students, of whom 248 are enrolled in public junior schools and 201 in private junior schools. The total sample size was 559. This conformed to the confidence interval of 0.05, the confidence level of 95 percent, which is a Z-score of 1.96, and the standard deviation of 0.5.

The study utilized questionnaires, interview schedules, and observational frameworks to collect data. The questionnaires consisted of both structured and unstructured questions, integrating open-ended and closed-ended items to gather quantitative and qualitative data. The interview guide collected information from the head teachers. Questionnaires were administered to other respondents as well. To collect data regarding the inquiry, the researchers used an observation guide. This guidebook outlined precise criteria for monitoring classroom interactions and the use of CBE strategies.

Validity ensured that research conclusions were founded on strong evidence. The researchers revised and modified questionnaire items after the respondents had completed them. The study ensured content validity by verifying that the collected data aligned with expected outcomes. Reliability was crucial for establishing confidence and applying the instrument's findings in practical contexts. The study utilized the test-retest procedure.

5. Discussions

Data analysis was essential since it guaranteed the dataset's precision before conducting more complex statistical evaluations. By proactively tackling these issues, the study augmented the credibility of findings and provided more substantial conclusions. The quantitative data from the closed questions were analyzed using descriptive statistics, including percentages and frequencies, to clearly illustrate the distribution. The qualitative data from the open-ended questions were classified into themes and patterns. The data was subjected to thematic analysis. Thematic analysis enhanced understanding of participant perspectives, revealing insights that quantitative data might have missed.

Objective one of this study examined the availability of physical facilities in public and private junior secondary schools in Mbita Sub-County, emphasizing the head teachers', DOS, and pupils' views and perspectives of head teachers, directors of studies (DOS), and pupils. Physical facilities are critical for the effective implementation of Competency-Based Education (CBE), as they support both academic and co-curricular activities. By comparing public and private junior schools, the study unravelled disparities in resource allocation and adequacy. The respondents' responses were recorded in Table 1.

Table 1. Head teachers, DOS, and pupils' views on availability of physical facilities

Institution Type	Respondent Category	Adequate n (%)	Inadequate n (%)	Total (n)
Public JSS (n = 292)	Head Teachers (22)	6 (27.3%)	16 (72.7%)	22
	DOS (22)	8 (36.4%)	14 (63.6%)	22
	Pupils (248)	70 (28.2%)	178 (71.8%)	248
Private JSS (n = 215)	Head Teachers (7)	6 (85.7%)	1 (14.3%)	7
	DOS (7)	5 (71.4%)	2 (28.6%)	7
	Pupils (201)	150 (74.6%)	51 (25.4%)	201
Total (n = 501)		245 (48.9%)	256 (51.1%)	501

Table 1 data revealed that 72.7% of head teachers, 63.6% of DOS, and 71.8% of pupils in public junior secondary schools perceive their physical facilities as inadequate. However, 85.7% of head teachers, 71.4% of the DOS, and 74.6% of the pupils in private junior secondary schools indicated that physical infrastructure was adequate.

These results revealed that infrastructure, such as classrooms, laboratories, libraries, and sanitation facilities, was insufficient to meet the needs of public schools. Furthermore, the results revealed that private junior schools have invested more in infrastructure, effectively addressing learners' needs better than public schools. The comparative findings indicate a resource disparity between public and private schools. These outcomes mirror the with the

report [19], which showed that African public schools experience inadequate physical facilities that negatively impact teaching and learning outcomes. Furthermore, the findings suggested that public schools are under more strain due to large enrolments following free education policies that outstrip available resources. However, Private schools operate with smaller enrolments and charge fees that can be reinvested into facilities.

Objective two of this study investigated how ICT infrastructure affects the attainment of CBE competencies in public and private junior schools. The data collected included information on ICT tools in public and private junior schools, internet connectivity and digital teaching capacity, power supply and projector use, and computers and teacher productivity. The opinions of head teachers from interviews, and those of DOS and pupils from surveys, provided insights into how ICT infrastructure influences the attainment of CBE competencies. The study sought head teachers, DOS, and pupils' views on the availability of ICT infrastructure. Their responses were recorded in Table 2.

Table 2. Respondents' views on availability of ICT infrastructure

Respondent Category	Institution Type	Adequate n (%)	Inadequate n (%)	Total (n)
Head Teachers	Public	6 (27.3%)	16 (72.7%)	22
	Private	6 (85.7%)	1 (14.3%)	7
Directors of Studies	Public	7 (31.8%)	15 (68.2%)	22
	Private	6 (85.7%)	1 (14.3%)	7
Pupils	Public	58 (23.4%)	190 (76.6%)	248
	Private	152 (75.6%)	49 (24.4%)	201
Subtotal (Public)		71 (24.3%)	221 (75.7%)	292
Subtotal (Private)		164 (76.3%)	51 (23.7%)	215

Concerning data in Table 2, 27.3% from public junior secondary schools reported that schools had adequate ICT facilities, and 85.7% of head teachers in private junior secondary schools indicated that their schools had adequate ICT facilities. Besides, 31.8% of directors of studies in public junior schools indicated that ICT infrastructure was inadequate, while 85.7% of DOS in private junior secondary schools perceived their ICT resources as adequate. The findings suggested that private junior secondary schools had greater access to digital tools as opposed to their counterparts in public junior secondary schools. Digital tools include computers, internet connectivity, and projectors, enabling effective integration of ICT in instruction.

These differences concur with [11][20], which reported that ICT access in Kenyan public schools remains low due to underfunding, poor maintenance, and unreliable connectivity, while private schools benefit from stronger investment and managerial flexibility. These findings implied that ICT inadequacy remains a major barrier to equitable CBE attainment in public schools. The limited ICT resources in public institutions restrict teachers' ability to employ technology-enhanced learning, while private schools' better infrastructure promotes interactive and learner-centered approaches aligned with CBE principles.

Objective three of this study investigated how instructional materials impact the attainment of CBE standards. Instructional materials examined included textbooks and learner workbooks, teacher's guides, charts, posters, and wall displays, as well as supplementary reading materials such as magazines, storybooks, and newspapers that promote literacy and creativity. The head teachers', DOS, and pupils' opinions on these variables offered information on the extent to which instructional materials impact the attainment of CBE standards. The respondents' views were recorded in Table 3.

Table 3: Adequacy of instructional materials

Instructional Material	Respondent Category	Institution Type	Adequate n (%)	Inadequate n (%)	Total (n)
Textbooks & Learner Workbooks	Head Teachers	Public	9 (40.9%)	13 (59.1%)	22
		Private	6 (85.7%)	1 (14.3%)	7
	D.O.S.	Public	11 (36.7%)	19 (63.3%)	30
		Private	8 (80.0%)	2 (20.0%)	10
	Pupils	Public	20 (32%)	40 (68%)	60
		Private	18 (75.0%)	6 (25.0%)	24
Teacher's Guides	Head Teachers	Public	8 (36.4%)	14 (63.6%)	22
		Private	6 (85.7%)	1 (14.3%)	7
	D.O.S.	Public	10 (33.3%)	20 (66.7%)	30
		Private	8 (80.0%)	2 (20.0%)	10
	Pupils	Public	18 (30.0%)	42 (70.0%)	60
		Private	19 (79.2%)	5 (20.8%)	24
Charts, Posters, & Wall Displays	Head Teachers	Public	7 (31.8%)	15 (68.2%)	22
		Private	6 (85.7%)	1 (14.3%)	7
	D.O.S.	Public	9 (30.0%)	21 (70.0%)	30
		Private	8 (80.0%)	2 (20.0%)	10
	Pupils	Public	17 (28.3%)	43 (71.7%)	60
		Private	18 (75.0%)	6 (25.0%)	24
Supplementary Reading Materials	Head Teachers	Public	8 (36.4%)	14 (63.6%)	22
		Private	6 (85.7%)	1 (14.3%)	7
	D.O.S.	Public	9 (30.0%)	21 (70.0%)	30
		Private	8 (80.0%)	2 (20.0%)	10
	Pupils	Public	16 (26.7%)	44 (73.3%)	60
		Private	19 (79.2%)	5 (20.8%)	24

In relation to the data in Table 3, 40.9% of head teachers in public junior schools reported textbooks and learner workbooks as adequate, while 59.1% considered them inadequate. In contrast, 85.7% of head teachers in private junior schools reported these materials as adequate. Regarding teachers' guides, 36.4% of public junior school head teachers agreed they were adequate. In public junior secondary schools, 85.7% of head teachers reported that charts were adequate, while 85.7% of head teachers in private junior secondary schools stated that they were. In public junior secondary schools, 85.7% of head teachers reported that supplementary reading materials were adequate, while 85.7% of head teachers in private junior secondary schools stated that they were adequate.

In addition, 33.3% of D.O.S. in public junior schools reported that teachers' guides were adequate, while 66.7% stated that they were inadequate. In private junior schools, 80.0% indicated that teachers' guides were adequate, while 20.0% said they were inadequate. Besides, concerning charts, posters, and wall displays, 30.0% of DOS reported them as adequate, while 70.0% said they were inadequate. In private junior schools, 80.0% of DOS reported the visual displays as adequate, while 20.0% said they were inadequate. For the supplementary reading materials, 30.0% of DOS in public junior schools reported adequacy, while 70.0% indicated inadequacy. Conversely, in private junior schools, 80.0% of DOS reported adequacy and 20.0% inadequacy. Therefore, it can be deduced from the findings that 31% of D.O.S. in public junior schools perceived instructional materials as adequate, while 80% of D.O.S. in private junior schools agreed they were adequate. The views reflect the importance of learner and teacher support materials, such as adequate textbooks in public and

private junior schools, which can promote or impede the delivery of practical, competency-based learning experiences.

Furthermore, data revealed that in public junior secondary schools, 32% of pupils agreed that textbooks and learner workbooks were adequate, while 68% disagreed; in private junior schools, 75.0% agreed and 25.0% disagreed. Concerning teachers' guides (as reflected in teaching quality), 30.0% of public junior school pupils agreed that teachers had adequate guides, while 70.0% disagreed; 79.2% of private junior school pupils perceived adequacy, while 20.8% disagreed. For the charts, posters, and wall displays, 28.3% of public junior school pupils noted adequacy, compared to 71.7% who disagreed; in private junior schools, 75.0% of pupils reported adequacy and 25.0% inadequacy. Concerning supplementary reading materials, 26.7% of public junior school pupils agreed they were adequate, while 73.3% disagreed; private junior school pupils reported 79.2% adequacy and 20.8% inadequacy. The findings concur with Adetunji [1], which established that urban public schools in Nigeria had an insufficient supply of textbooks, which compromised the quality of education.

Overall, 36% of respondents in public junior secondary schools perceived instructional materials as adequate compared to 86% of the respondents in private junior schools, who noted that instructional materials were adequate. These findings align with the report [6][12], which identified resource disparities between public and private primary schools. The findings showed that fewer than half of students in public primary schools had access to individual textbooks, whereas private primary schools nearly universally provided them. These results highlight ongoing structural issues in resource distribution within the education sector. This gap indicates that learners in private schools benefit from more diverse and sufficient learning resources, which support the achievement of CBE competencies.

6. Major findings

The results of objective one showed that there were deficiencies in physical infrastructure for the effective implementation of competency-based education. However, private junior schools had invested more in infrastructure than public junior secondary schools.

The findings on objective two revealed that the digital divide limits public and private junior secondary school teachers' ability to deliver technology-supported lessons and restricts learners' opportunities to build digital literacy and innovation skills essential for CBE.

Objective three revealed a disparity in the adequacy of instructional materials between public and private junior schools. However, both public and private junior secondary schools continued to experience shortages in core learning resources in ICT.

7. Conclusions

The study implied that school-based factors influence the attainment of Competency-Based Education (CBE) standards in public and private junior schools in Mbita Sub-County. These aspects include physical facilities, ICT infrastructure, instructional materials, and curriculum supervision. The key findings demonstrated that adequate physical infrastructure and equipment and instructional materials form the foundation for CBE implementation in both public and private junior secondary schools. Private junior second schools reported higher adequacy in physical facilities, ICT equipment and instructional materials. However, public schools experience infrastructural gaps driven by overcrowding and inadequate resources. The study also highlighted the availability of ICT infrastructure. Private junior secondary schools showed higher access to ICT tools, internet connectivity, digital devices, and

functional laboratories. This gap compromises public junior school learners' exposure to digital literacy, collaboration, and research skills. Furthermore, the adequacy of instructional materials, textbooks, teacher guides, visual aids, and supplementary reading materials was critical to competency acquisition. Private schools exemplified a robust resource provision, supporting learner-centered, activity-based teaching. Public schools continue to face shortages that restrict both lesson quality and learner engagement, undermining the goals of CBE. Overall, the study concludes that both public and private schools recognize the demands of CBE. Disparities in facilities, ICT resources and instructional materials place public schools at a disadvantage.

In conclusion, the successful implementation of CBCIN JSS in Mbita sub county depended on sustained government support, including adequate funding and provision of physical infrastructure and equipment and instructional materials. With these improvements, CBC has the potential to transform education and comply with the requirements of Vision 2030.

The study recommended that policymakers and education stakeholders should prioritize strategic investment in physical and ICT infrastructure for public and private junior secondary schools to ensure adequacy of infrastructure. Policymakers should allocate targeted funding to expand and rehabilitate physical facilities while prioritizing the provision of reliable electricity.

The study also recommended expansion and infrastructure to accommodate JSS. This includes physical facilities and equipment, Internet connectivity, and digital devices.

7.1. Study limitations

This study like any other study had various limitations. The geographical setup of the study site was a significant limitation to this study. The site is hilly, and the soil texture is black cotton soil. It affected the transport infrastructure during the rainy season. The sampling procedure and responses from respondents were a limitation. Besides, research tools were a limitation. With regard to the mitigation of limitations, the study was conducted during the dry season of the month of February, 2025. Also, the study sampled respondents from all over the study site through purposive, random and stratified sampling. The major study tool was the questionnaire. Question items had both open- and closed-ended questions. Interview and observation schedules supplemented the questionnaires. Also, researchers' skills of creativity and determined reliability and validity of question items. Furthermore, respondents were assured of confidentiality for provision of genuine responses.

7.2. Study contributions

This research could be valuable for various stakeholders within the education sector, such as the department of education officials and curriculum developers. The study's findings might provide insights into high-quality education to ensure learners meet CBE standards. Additionally, the study's results could assist teachers in equipping learners with 21st-century skills, enabling students to adapt to change in contemporary society and prepare for future work.

7.3. Suggestions for further research

The expectations of quality education should be discussed in detail through research. Future studies should investigate the following areas because they play essential roles in achieving CBE standards: Investigate the influence of teacher competency on CBE

implementation; evaluate the long-term outcomes of CBE on learner performance and transition; and assess the impact of socio-economic factors on CBE attainment in public and private primary schools.

Acknowledgment

The study is empirical and original. Subsequently, we appreciate education officers and respondents who participated in the study.

Authors' contributions

Three authors took part in the research.

Conflict of interest

A conflict of interest did not exist.

Funding source

There was no outside funding source. To make the study happen, the author had to give up their funds.

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