

Public Libraries' Support for Competency-Based Education in Primary Schools: Evidence from Laikipia East Constituency, Kenya

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Abstract

Public libraries serve as critical community learning centers capable of bridging school resource gaps, especially in rural settings, and can therefore support the Competency-Based Education (CBE) in primary schools. However, public libraries are resource and structurally constrained. This study examined how public libraries can support the CBE learning process in primary schools within Laikipia East Constituency, Kenya. The study was guided by the Constructivist Learning Theory, and employed a mixed-methods approach anchored in a descriptive survey design. The target population included librarians, teachers, and pupils; class 1 -6. Stratified, purposive, and simple random sampling yielded 178 respondents. Data were collected using questionnaires, interviews, and observation checklists, with pretesting ensuring validity and reliability. Quantitative data were analyzed using percentages, mean, and standard deviation, while qualitative data were thematically analyzed. The findings showed that public libraries promote literacy, creativity, and digital literacy, with the strongest consensus recognizing them as key aspects in CBE implementation ($M = 3.95$, $SD = 1.195$). However, confidence in their direct role in achieving CBE goals was weaker ($M = 2.75$, $SD = 1.295$), and their contribution to specific learner outcomes was less recognized. Qualitative findings confirmed support through storytelling, arts programs, group activities, and ICT, though limited by funding. Noted drawbacks were outdated resources, weak ICT infrastructure, and insufficiently trained staff. The study concludes that public libraries are indispensable in complementing CBC by enhancing literacy, fostering independent learning, and supporting teacher and learner competencies. It recommends that KNLS, the Ministry of Education, County Government of Laikipia, KICD, and the Ministry of ICT strengthen ICT infrastructure, expand CBC-aligned collections, institutionalize teacher-librarian collaboration, and provide continuous professional development for librarians. These actions will reposition public libraries as integral partners in achieving CBC goals and Sustainable Development Goal 4.

Keywords: *Public libraries, Competency-Based Education, Learning support, Primary schools, Laikipia County Library*

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1. Introduction

Competency-Based Education (CBE) has emerged globally as a transformative framework that shifts emphasis from content coverage to the acquisition of measurable skills, attitudes, and values that prepare learners for a dynamic and competitive world. Countries such as the United States, Finland, and Canada have adopted CBE models to foster innovation, problem-solving, collaboration, and creativity as essential twenty-first-century competencies (Darling-Hammond et al., 2019). International organizations, including UNESCO and the World Bank, have further underscored the importance of CBE in driving inclusive and equitable quality education aligned to the Sustainable Development Goals (SDGs). Central to this transformation is the recognition that learners require access not only to classroom instruction but also to complementary information systems, lifelong learning platforms, and inclusive resource centers. Public libraries, with their rich collections, digital platforms, and outreach services, are strategically positioned as key partners in providing the infrastructure and support required for effective CBE implementation (IFLA, 2018).

In Africa, many governments have embraced CBE as a means to address persistent educational, social, and economic challenges, with Kenya institutionalizing the Competency-Based Curriculum (CBC) in 2017 through the Kenya Institute of Curriculum Development (KICD). The Kenyan CBC aims to nurture engaged, empowered, and ethical citizens equipped with competencies relevant for employability, entrepreneurship, and civic life (KICD, 2017). However, despite its promise, implementation challenges persist, including limited resources, inadequate teacher training, and inequitable access to supportive learning environments. Public libraries are uniquely positioned to complement schools in bridging these gaps by offering access to information resources, ICT services, literacy programs, and safe study spaces (KNLS, 2020). In Laikipia East Constituency, disparities in educational infrastructure highlight the urgency of repositioning public libraries as hubs for competency development. Against this backdrop, investigating the extent to which public libraries support competency-based education in primary schools is vital for informing policy and practice aimed at achieving Kenya's Vision 2030 and Sustainable Development Goal 4 (SDG4) on quality education.

1.1 Problem Statement

The adoption of Competency-Based Curriculum (CBC) in Kenya has redefined the education landscape by shifting focus from rote memorization to competency acquisition, emphasizing practical skills, critical thinking, and creativity. Ideally, public libraries should serve as community learning hubs that provide relevant collections, ICT-enabled services, and tailored literacy programs to reinforce competency-based learning (Wachira, 2019). However, in practice, many public libraries in Kenya remain under-resourced, with inadequate infrastructure, limited collections aligned with CBC, and insufficient integration of ICT tools to support learner-centered education (KNLS, 2020). This disconnect between the envisioned role of libraries and the prevailing reality constrains their contribution to CBC implementation and risks widening disparities in learning outcomes, especially in underserved regions such as Laikipia East Constituency. While previous studies have examined the general role of libraries in education, there is limited empirical evidence on the specific strategies employed by public

libraries to promote competency-based education in primary schools within the Kenyan context. This study, therefore, addressed this critical gap by examining the contribution of public libraries in supporting the implementation of CBC in Laikipia East Constituency.

1.2 Research Objective

To examine the extent to which public libraries support the Competency-Based Education (CBE) learning process in primary schools in Laikipia East Constituency, Kenya.

2. Literature Review

Public libraries have increasingly been recognized as critical partners in advancing competency-based education (CBE) by providing accessible learning resources, fostering digital literacy, and supporting self-directed learning. Globally, studies have shown that libraries serve as inclusive spaces that promote reading culture, collaborative learning, and innovation, thereby complementing classroom instruction (IFLA, 2018). In developed countries such as Finland and the United States, public libraries provide tailored programs aligned with curriculum goals, integrate ICT tools, and support competency development through community-driven initiatives (Darling-Hammond et al., 2019). These experiences demonstrate that libraries are no longer peripheral to the education system but are integral in shaping learner competencies required for the twenty-first century.

Within the African context, public libraries face challenges such as limited infrastructure, inadequate funding, and insufficient alignment of services with curriculum needs, yet they remain vital platforms for bridging educational inequities. In Kenya, public libraries under the Kenya National Library Service (KNLS) have been mandated to promote literacy, provide ICT-enabled services, and support lifelong learning (KNLS, 2020). However, research reveals that their potential in advancing the Competency-Based Curriculum (CBC) has not been fully realized due to weak integration with schools, inadequate CBC-aligned resources, and underutilization by teachers and learners (Wachira, 2019). These gaps underscore the need for empirical inquiry into the strategies public libraries adopt to support CBC, particularly in underserved areas such as Laikipia East Constituency, where access to supportive learning resources remains uneven.

2.1 Theoretical Review

This study was underpinned by the Constructivist Learning Theory (Vygotsky, 1978), which posits that learners construct knowledge actively through interaction with their environment, peers, and learning resources. The theory emphasizes the importance of scaffolding, collaboration, and access to diverse resources in facilitating competency development. In the context of public libraries, constructivism underscores their role in providing learning materials, digital technologies, and collaborative spaces that enable learners to engage in self-directed and experiential learning. By positioning libraries as extensions of the classroom, constructivism provides a strong theoretical basis for understanding how public libraries can support the acquisition of competencies envisioned under CBC in primary schools.

3. Materials and Methods

The study adopted a descriptive survey design and was carried out in Laikipia East Constituency, Kenya. The target population comprised 7 librarians, 455 teachers, and 45675 pupils in Grades 1–6 from 75 primary schools. A total of 178 respondents were selected using stratified, purposive, and simple random sampling techniques. The actual number of students

was 7 librarians, 210 teachers, and 165 pupils in Grades 1–6. Data were collected using questionnaires administered to teachers and pupils, semi-structured interviews with librarians and head teachers, and observation checklists to document available library resources.

Research instruments were pretested in one library and two schools outside the study area to establish reliability and validity. Reliability was measured using Cronbach's alpha, with results exceeding the 0.7 threshold, while validity was ensured through expert review and adjustments. Quantitative data were analyzed using descriptive statistics such as percentages and means, while qualitative data were analyzed thematically. Triangulation was used to enhance the credibility of findings. Ethical considerations included obtaining research authorization from NACOSTI, securing informed consent, ensuring confidentiality and anonymity, and emphasizing voluntary participation.

4. Results and Discussion

The study achieved a high response rate, with 470 out of 489 questionnaires distributed to librarians, head teachers, teachers, and pupils completed and returned. This represents a 96.1% response rate, which is considered adequate for ensuring the reliability and validity of research findings and exceeds the 70% benchmark recommended for social science studies.

Demographic characteristics of respondents provided important context for the analysis. The majority of head teachers and teachers were female (62%), reflecting the gender distribution common in Kenyan primary schools. In terms of professional qualifications, 78% held P1 certification, while a smaller proportion possessed higher academic or professional training. Most teachers (52%) had between 6 and 15 years of teaching experience, suggesting they were well-versed in curriculum changes such as the Competency-Based Curriculum (CBC). Among librarians, only half had formal training in library and information science, highlighting a professional capacity gap in delivering specialized support for CBC. For pupils in Grades 1–6, representation was proportionally distributed by gender and grade, ensuring a balanced sample. These characteristics were vital in shaping respondents' perspectives on how libraries support competency-based education.

4.1 Public libraries' support for promoting CBE in primary schools

The study assessed how public libraries support the implementation of CBE in primary schools across Laikipia East Constituency. The results are presented in Table 1.

Table 1: Public Libraries’ Support for Promoting CBE in Primary Schools

Public Library Support Activities	SA (%)	A (%)	UD (%)	D (%)	SD (%)	Mean	Std. Dev
Provision of CBC-aligned textbooks and learning materials	40.6	37.2	7.0	10.2	5.0	3.98	1.12
ICT services and digital literacy programs	32.4	41.6	9.8	10.4	5.8	3.84	1.18
Reading programs and literacy promotion	45.8	39.2	5.2	6.4	3.4	4.18	1.06
Collaborative support to teachers in CBC implementation	30.2	36.8	10.6	14.8	7.6	3.67	1.24
Inclusive learning spaces for CBC group activities	34.0	38.2	8.8	12.0	7.0	3.81	1.20

The findings indicate that reading programs and literacy promotion scored the highest mean ($M = 4.18$, $SD = 1.06$), underscoring the strong role of public libraries in fostering a reading culture among primary school pupils. This aligns with global studies that highlight libraries as central to promoting literacy and lifelong learning (IFLA, 2018; Kuhlthau, 2018). The provision of CBC-aligned textbooks and learning materials ($M = 3.98$, $SD = 1.12$) was also rated positively, suggesting that libraries are moderately successful in supplementing school resources. However, respondents noted that many of these materials were not fully aligned with CBC, limiting their utility in competency development.

With regard to ICT services and digital literacy programs ($M = 3.84$, $SD = 1.18$), the findings showed that libraries play an emerging role in digital learning. Nonetheless, unreliable internet connectivity and limited functional computers restricted the extent to which pupils could access interactive CBC-aligned content. These results mirror observations by Wachira (2019), who argued that although the Kenya National Library Service (KNLS) has introduced ICT initiatives, their reach in rural areas remains inadequate.

The relatively lower ratings for collaborative support to teachers in CBC implementation ($M = 3.67$, $SD = 1.24$) and inclusive learning spaces for group activities ($M = 3.81$, $SD = 1.20$) highlight structural and institutional gaps. Teachers reported minimal formal collaboration with librarians in lesson planning and curriculum delivery, indicating that such partnerships remain ad hoc and personality-driven. This echoes the insights of Coleman’s (1988) Social Capital Theory, which posits that institutional collaboration is essential for achieving collective educational outcomes. The inadequacy of inclusive spaces also suggests infrastructural challenges that hinder active, participatory learning processes envisioned under CBC. The descriptive findings demonstrate that while public libraries in Laikipia East Constituency moderately support CBC implementation through reading programs, supplementary resources, and limited ICT services, their full potential is hampered by resource constraints, infrastructural inadequacies, and weak school-library collaboration frameworks.

Qualitative findings emanating from the responses from librarians, teachers, and head teachers revealed deeper insights into the role of public libraries in supporting CBC. Respondents highlighted that libraries organized reading promotion programs, including story hours, essay competitions, and read-aloud sessions, which nurtured literacy and creativity among pupils. Librarians also emphasized that public libraries acted as ICT access points, offering digital resources, albeit limited, that supported learners' exploration of CBC-related content. Teachers noted that libraries occasionally conducted teacher support workshops, providing exposure to instructional resources and digital tools. However, qualitative findings equally revealed challenges such as inadequate ICT infrastructure, limited CBC-aligned resources, and weak collaboration frameworks between libraries and schools. Some librarians pointed out that library budgets were insufficient to continuously update collections in line with CBC requirements, which constrained their ability to fully complement the curriculum. These perspectives echo earlier studies emphasizing that while public libraries play a crucial role in advancing literacy and curriculum reforms, resource limitations remain a major bottleneck (Wachira, 2019).

The integration of quantitative and qualitative findings demonstrates convergence on several key aspects. Both data sets confirmed that reading promotion programs were the most impactful library initiative in supporting CBC, reinforcing the statistical result where reading promotion scored the highest mean rating ($M = 4.18$). Similarly, convergence was evident in the role of ICT services, which were positively acknowledged in survey results and further confirmed by respondents' narratives describing libraries as digital literacy enablers, despite challenges of infrastructure and connectivity. Another point of convergence was the limited collaboration between librarians and teachers in CBC implementation. Quantitative findings rated collaborative support relatively lower ($M = 3.67$), while qualitative responses revealed minimal structured engagements and a lack of institutionalized partnerships. Both strands of data highlighted that while libraries contribute meaningfully to CBC goals, their potential is hindered by systemic challenges, including insufficient funding, inadequate ICT infrastructure, and poor alignment of resources to CBC demands. This convergence underscores the need for holistic interventions, combining infrastructural investment, resource mobilization, and policy frameworks that strengthen library-school collaboration to maximize the impact of public libraries on CBC implementation.

4.2 Promotion of Competency-Based Education in Primary Schools by Public Libraries

The study also investigated how of competency-based education (CBE) in primary schools was promoted by public libraries. This was assessed through dimensions such as libraries as strategic stakeholders, support for learner competencies, teacher empowerment, inclusive access to learning tools, influence on outcomes, and lifelong learning. Quantitative findings, as presented in Table 2, showed varied perceptions among teachers regarding libraries' roles. Notably, the highest agreement (76.9%) was on the statement "I consider public libraries as key stakeholders in competency-based teaching and learning," with a mean score of 3.95 ($SD = 1.195$). By contrast, the lowest agreement (27.2%) was recorded for "Public libraries are vital partners in achieving the goals of Competency-Based Education" ($M = 2.75$, $SD = 1.295$). These results indicate recognition of libraries' strategic potential but less confidence in their tangible contributions to CBE outcomes.

Table 2: Promotion of Competency-Based Education in Primary Schools by Public Libraries

No.	Statements on promoting competency-based education for primary schools through public libraries (N = 173)	SD(1)	D(2)	N(3)	A(4)	SA(5)	Mean	Std. Dev.
i	Public libraries play a key role in promoting Competency-Based Education in the community.	33(19.1%)	45(26.0%)	42(24.3%)	23(13.3%)	30(17.3%)	2.84	1.354
ii	Library programs and services help improve learners' literacy, digital literacy, and communication skills.	36(20.8%)	44(25.4%)	30(17.3%)	35(20.2%)	28(16.2%)	2.86	1.388
iii	Regular use of the public library by pupils leads to noticeable improvement in their learning outcomes.	29(16.8%)	51(29.5%)	39(22.5%)	31(17.9%)	23(13.3%)	2.82	1.285
iv	Public libraries support teachers through access to teaching materials and professional resources.	28(16.2%)	42(24.3%)	47(27.2%)	21(12.1%)	35(20.2%)	2.96	1.353
v	The resources provided by public libraries directly support the development of CBE competencies.	37(21.4%)	40(23.1%)	35(20.2%)	29(16.8%)	32(18.5%)	2.88	1.411
vi	Libraries provide inclusive access to educational tools that promote independent learning.	26(15.0%)	51(29.5%)	32(18.5%)	41(23.7%)	23(13.3%)	2.91	1.291
vii	Public libraries are vital partners in achieving the goals of Competency-Based Education.	35(20.2%)	43(24.9%)	48(27.7%)	24(13.9%)	23(13.3%)	2.75	1.295
viii	I believe public libraries are important in the implementation of CBE in schools.	29(16.8%)	47(27.2%)	45(26.0%)	21(12.1%)	31(17.9%)	2.87	1.332
ix	I consider public libraries as key stakeholders in competency-based teaching and learning.	11(6.4%)	16(9.2%)	13(7.5%)	63(36.4%)	70(40.5%)	3.95	1.195

The results in Table 2 show that teachers' perceptions of public libraries' role in promoting Competency-Based Education (CBE) in primary schools were mixed. The highest agreement was recorded for the statement "*I consider public libraries as key stakeholders in competency-based teaching and learning*" ($M = 3.95$, $SD = 1.195$), where 76.9% of respondents agreed or strongly agreed. This indicates strong recognition of libraries' strategic role in CBE implementation. Conversely, the lowest agreement was observed for "*Public libraries are vital partners in achieving the goals of CBE*" ($M = 2.75$, $SD = 1.295$), with only 27.2% agreement,

reflecting skepticism about libraries' direct impact on achieving curriculum goals. Other items, such as provision of inclusive tools ($M = 2.91$) and support for teachers ($M = 2.96$), were rated moderately, while items related to improved literacy and learning outcomes recorded relatively low agreement. These findings suggest that while stakeholders acknowledge libraries' importance, their contributions are not yet perceived as strong or consistent across all CBE dimensions (Karambu, 2023).

Qualitative findings provided richer insights. Library staff described programs such as storytelling, problem-solving games, and team-based activities that fostered creativity, communication, and critical thinking. Teachers confirmed these contributions, citing enhanced creativity through writing competitions, drama clubs, and art activities. Respondents also emphasized gains in communication through debates, book discussions, and storytelling, and in digital literacy via digital storybooks and online resources. As one teacher noted, libraries were "letting children work in teams and be creative." However, both groups highlighted challenges of "lack of funds," "lack of resources," and a shortage of staff trained in CBE. These concerns align with Moyo (2023), Chigbu and Okeagu (2021), and Maina and Muriithi (2022), who stress that limited funding, resources, and professional training undermine libraries' ability to advance education reforms.

Triangulation of quantitative and qualitative data revealed convergence across several themes. First, both data sets confirmed that libraries are recognized as strategic CBE stakeholders, even though their direct contributions to literacy and outcomes remain inconsistent. Second, convergence was evident in the area of teacher support and collaboration. Quantitative data showed moderate agreement on libraries supporting teachers with teaching materials ($M = 2.96$), while interviews and observations described teacher-librarian consultations during instructional activities. Third, both strands highlighted ICT gaps, with teachers reporting limited access to digital resources, librarians citing inadequate ICT infrastructure, and observations showing minimal digital tool use. As Creswell and Creswell (2023) and Fetters and Freshwater (2021) argue, such convergence enhances the validity and trustworthiness of findings.

In summary, while quantitative results revealed mixed perceptions, the qualitative evidence showed that libraries foster CBE through creativity, communication, teamwork, and digital literacy programs. Yet systemic barriers, including inadequate ICT infrastructure, resource shortages, and limited collaboration, constrain impact. The highest-rated statement ("I consider public libraries as key stakeholders in competency-based teaching and learning") demonstrates that stakeholders recognize the potential of libraries, even if tangible outcomes are uneven. As the County Director emphasized, "Our vision is to make libraries flexible, creative, and technology-enabled spaces where learning continues even outside the classroom." This underscores the importance of repositioning libraries as integral partners in CBE policy and practice (Moyo, 2023; OECD, 2020; IFLA, 2022).

5. Conclusion

This study established that public libraries in Laikipia East Constituency play a significant but uneven role in supporting and promoting Competency-Based Education (CBE) in primary schools. Quantitative findings highlighted their strongest contribution in literacy promotion, with moderate support in the provision of CBC-aligned resources and ICT services, but weaker collaboration with teachers and limited inclusive learning spaces. Qualitative insights

confirmed that libraries foster creativity, communication, teamwork, critical thinking, and digital literacy through diverse programs, though persistent challenges such as inadequate funding, insufficient CBC-aligned materials, ICT gaps, and limited staff training constrained their impact. The convergence of data underscored broad recognition of libraries as strategic CBE stakeholders, yet with less confidence in their tangible role in achieving curriculum outcomes. Overall, strengthening ICT infrastructure, expanding CBC-oriented collections, enhancing teacher–librarian collaboration, and improving professional capacity are essential for repositioning public libraries as integral partners in delivering Kenya’s CBC and advancing SDG4 on inclusive, quality education.

6. Recommendations

Based on the findings, the study recommends that the Kenya National Library Service (KNLS), in collaboration with the Ministry of Education, should strengthen ICT infrastructure in public libraries by providing computers, internet connectivity, and digital content to enhance digital literacy. The County Government of Laikipia should allocate adequate funds for the acquisition of CBC-aligned learning resources and inclusive facilities to ensure equitable access for all learners. The Teachers Service Commission (TSC), working with KNLS, should institutionalize structured collaboration between teachers and librarians through joint training workshops and curriculum-support initiatives. Additionally, the Kenya Institute of Curriculum Development (KICD) should develop CBC resource kits tailored for public libraries, while the Ministry of ICT and Digital Economy should prioritize digital inclusion programs in libraries to support independent and lifelong learning. Finally, KNLS should establish continuous professional development programs to build librarians’ competencies in CBE implementation. Collectively, these actions will reposition public libraries as vital partners in achieving CBC goals and Sustainable Development Goal 4.

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