

Public Primary School Teacher Preparedness on CBC Adoption in Township Ward, Garissa County, Kenya

John Momanyi Ongubo (PhD)

Senior Lecturer, Postgraduate and Research, Mogadishu University – Somalia

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ABSTRACT

Globally, education systems underwent a transition from traditional, examination-centred approaches to learner-centred, competency-based models designed to equip learners with twenty-first-century skills. In Kenya, the Competency-Based Curriculum (CBC), launched in 2017, sought to reorient basic education toward holistic and skills-based learning. However, disparities in its implementation became evident, particularly in marginalized regions of the country. This study assessed public primary teacher preparedness for CBC adoption in Township Ward, Garissa County and focused on pedagogical competence, in-service training coverage, and access to curriculum support resources. The study was guided by Pedagogical Content Knowledge (PCK) Theory, the Resource-Based View (RBV), and Systems Theory. It applied a desktop review methodology to synthesize data from peer-reviewed literature, government publications, and county-level reports. The findings revealed that public primary teachers in Garissa Township Ward faced significant challenges, including insufficient CBC-focused training, limited access to instructional materials, and inadequate infrastructure conditions that impede effective implementation of learner-centred teaching strategies. In response, the study proposed an integrated implementation framework grounded in Vygotsky's Sociocultural Theory, Bronfenbrenner's Ecological Systems Theory, Epstein's Model of Overlapping Spheres, and the Stakeholder Theory. The study contributed to the existing body of knowledge by generating localized evidence and proposing a practical, theory-driven model to support CBC implementation in underserved regions. Based on the integrated implementation framework, the study recommended institutionalizing school-based and modular teacher professional development programs, aligning teacher training with pedagogical practice, establishing CBC-specific financing models, investing in learning infrastructure in marginalized areas, creating decentralized Curriculum Support Centers (CSCs), and implementing multi-stakeholder policy review mechanisms.

Key Words: Competency-Based Curriculum (CBC), Teacher Preparedness, Pedagogical Content Knowledge, In-Service Training, Educational Infrastructure, Marginalized Regions

INTRODUCTION

Globally, education systems are undergoing transformative reforms to shift from traditional, exam-centered instruction toward learner-centered, competency-driven approaches that prepare students for twenty-first-century challenges (Darling-Hammond et al., 2020). Nations such as Finland, Singapore, and South Korea have demonstrated that effective Competency-Based Education (CBE) hinges on robust teacher capacity development, curriculum-aligned resources, and supportive infrastructure (Sahlberg, 2021). These international successes underscore the critical role of teacher preparedness in translating CBE philosophies into classroom practice (OECD, 2020).

According to UNESCO, (2021) countries in sub-Saharan Africa, including Rwanda, Nigeria, and South Africa have introduced CBE models to address skills gaps and improve workforce readiness. However, many of these initiatives struggle with persistent constraints most notably insufficient professional development for teachers, limited access to instructional materials, and inadequate learning environments particularly in marginalized or resource-poor regions (Chikoko & Gilmour, 2022). In Kenya, the Competency-Based Curriculum (CBC) was launched in 2017 under the Basic Education Curriculum Framework (BECF) to foster holistic, skills-based learning across all levels of basic education (KICD, 2018; MoE, 2019). As a departure from rote-learning

traditions, CBC requires teachers to adopt learner-centered pedagogies, continuous assessment techniques, and project-based activities demands that place considerable pressure on educators to rapidly develop new competencies (NESP, 2022; KNEC, 2021).

Despite nationwide rollout efforts, disparities in CBC implementation have emerged, with rural and arid regions reporting the greatest challenges in teacher training, instructional support, and classroom readiness (Otieno et al., 2023; Oduor & Kimutai, 2022). Garissa County an arid and semi-arid region in northeastern Kenya faces chronic educational marginalization due to insecurity, understaffing, limited professional development opportunities, and weak infrastructure (MOE, 2021; KNBS, 2023). In Township Ward, public primary schools are expected to deliver CBC's learner-centered approaches despite lacking comprehensive in-service training, curriculum support materials, and conducive learning spaces.

Given these contextual realities, there is a pressing need for localized evidence on teacher preparedness for CBC adoption in Township Ward, Garissa County. This study therefore seeks to assess public primary school teachers' pedagogical readiness, training adequacy, and resource access in implementing CBC. The findings will inform targeted professional development and policy interventions to support equitable and effective curriculum reform in marginalized regions of Kenya (Yusuf & Wario, 2023; UNICEF Kenya, 2022; KESSP, 2023).

Study Rationale

The successful adoption of Kenya's Competency-Based Curriculum (CBC) hinges significantly on teacher preparedness, including mastery of new pedagogical approaches, assessment techniques, and learner-centered strategies. However, evidence indicates that teacher readiness remains critically low, particularly in marginalized regions. According to a national assessment by the Kenya Institute of Curriculum Development (KICD, 2021), only 43% of primary school teachers reported feeling adequately trained to implement CBC effectively, while 58% cited difficulties in understanding competency-based assessment tools. These gaps are more pronounced in arid and semi-arid areas like Garissa County, where systemic challenges including insecurity, teacher shortages, and limited infrastructure continue to undermine education delivery (MoE, 2021; KNBS, 2023).

In Township Ward, Garissa County, preliminary reports by the County Directorate of Education (2022) revealed that more than 60% of public primary teachers had not received comprehensive in-service training on CBC, and over 70% lacked access to updated curriculum support materials. Furthermore, teacher-learner ratios in some schools exceed 1:65, far above the national standard of 1:40 (TSC, 2023). These disparities raise critical concerns about the capacity of teachers in the ward to meet CBC's pedagogical demands, particularly in facilitating differentiated learning, formative assessment, and learner-centered instruction. Despite national reforms, there is limited empirical research focusing specifically on the extent of teacher preparedness in Garissa's Township Ward. This study, therefore, seeks to bridge that gap by evaluating the level of CBC-related pedagogical competence, training coverage, and resource availability among public primary school teachers. The findings aim to inform localized interventions and equitable resource distribution in support of CBC implementation.

Research Objective

The study aimed to examine the level of Public Primary Teacher Preparedness on CBC Adoption in Township Ward, Garissa County, Kenya

Significance of the Assessment

This assessment is significant as it provides critical insights into the level of public primary teacher preparedness for the adoption of the Competency-Based Curriculum (CBC) in Township Ward, Garissa County an area that faces unique educational challenges such as insecurity, teacher shortages, and infrastructural deficits. By focusing on a marginalized region often excluded from national averages, the study generates localized evidence that can inform context-specific interventions by the Ministry of Education, the Teachers Service Commission, and curriculum development agencies. The findings are expected to guide targeted teacher training, resource allocation, and policy formulation to ensure equitable and effective CBC implementation. Ultimately, this study

contributes to bridging the gap between national curriculum reforms and grassroots educational realities, promoting inclusive, quality, and competency-driven education for all learners regardless of geography.

Theoretical Review

Pedagogical Content Knowledge (PCK) Theory

The Pedagogical Content Knowledge (PCK) Theory was developed by Lee Shulman in 1986. The theory posits that effective teaching is achieved not only through mastery of subject content but also through the ability to deliver that content in a way that is understandable and meaningful to learners. Its main tenets are that good teaching requires the integration of content knowledge, pedagogical skill, and an understanding of learners' prior knowledge and misconceptions. However, Grossman (1990) criticized PCK for lacking clarity in distinguishing between general pedagogical knowledge and subject-specific pedagogy, arguing that the theory remains difficult to operationalize in teacher training. Despite this, Gudmundsdottir (1991) supported the theory, stating it provides a powerful framework for assessing teaching quality and guiding professional development.

In the context of this study, PCK was found useful in assessing the adequacy of teacher competency in the rollout of the Competency-Based Curriculum (CBC) in CBC Adoption in Township Ward, Garissa Count. The CBC demands that teachers go beyond content delivery and instead facilitate learner-centered, inquiry-based learning processes, which aligns directly with the core of PCK. While its abstract nature may pose challenges in precise measurement, the theory allows evaluators to examine how well teachers translate curriculum objectives into meaningful learning experiences. By focusing on how pedagogical knowledge and subject matter knowledge are blended, PCK provides insight into whether teachers are truly prepared for CBC instruction.

Resource-Based View (RBV)

The Resource-Based View (RBV) Theory was developed by Jay Barney in 1991, grounded in the strategic management field. The theory posits that an institution's ability to perform and gain a competitive advantage lies in its access to valuable, rare, inimitable, and non-substitutable (VRIN) resources. These resources include tangible assets like finances, infrastructure, and human capital, which enable organizations to implement and sustain key programs. RBV emphasizes internal resource availability over external market factors when determining success. However, Peteraf (1993) critiqued the theory for its lack of clarity in measuring and categorizing what constitutes a "valuable" resource, arguing that it oversimplifies dynamic institutional realities.

Despite its critiques, RBV remains a relevant and widely supported theoretical model. Wernerfelt (1984), one of the early proponents of the resource-based approach, emphasized that organizations must align their strategic goals with the resource capabilities they possess. In the context of Township Ward, Garissa County, CBC implementation depends heavily on financial input for teacher training, curriculum materials, and school infrastructure making financial adequacy a strategic resource under RBV. While the theory may not fully account for external factors like political will or donor dependency, it offers a useful lens to assess how internal financial resources impact the effectiveness of CBC rollout.

Systems Theory

Systems Theory, developed by Ludwig von Bertalanffy in the 1950s, conceptualizes organizations as holistic entities comprised of interrelated and interdependent components working together to achieve common goals (von Bertalanffy, 1968). The theory emphasizes key elements such as inputs, processes, outputs, feedback mechanisms, and environmental interactions. In educational institutions, this translates to a functional relationship among infrastructure, human resources, curriculum delivery, and administration. For public primary schools, these subsystems must be adequately prepared to support Competency-Based Curriculum (CBC) implementation. A breakdown in any one subsystem like ICT infrastructure or physical facilities can disrupt the effectiveness of the whole educational system.

A more recent critique by Mingers and White (2020) argues that traditional Systems Theory tends to oversimplify social complexities and underrepresents contextual and cultural variables in dynamic environments

like education. Despite this, proponents such as Senge (2006) advocate its use in assessing institutional effectiveness and promoting continuous learning and adaptation. In the case of Garissa County, Systems Theory provided a useful lens to evaluate infrastructural readiness by examining how various physical facilities interact to support or hinder CBC adoption. While the theory may not fully capture socio-political dynamics, it offers a coherent and logical framework for identifying functional gaps and aligning resource planning in public primary schools

EMPIRICAL LITERATURE REVIEW

A study by Wambua and Mwangi (2022) assessed teacher preparedness for CBC implementation in public primary schools in Machakos County. Using a descriptive survey design with a sample of 120 teachers, the study found that although most teachers had undergone CBC training workshops organized by the Ministry of Education, only 38% felt adequately prepared to deliver the new curriculum. The study revealed key gaps in pedagogical content knowledge, assessment design, and integration of ICT in learning. It also noted that the rapid curriculum transition placed pressure on teachers who lacked continuous support mechanisms. The study concluded that teacher competency significantly influences the success of CBC implementation, especially in Grades 6 to 8 where learning tasks are more advanced. A major contextual gap identified was the insufficient post-training support, suggesting the need for sustained professional development programs aligned with CBC requirements.

Conducting research in Kajiado County, Kimeu and Muthoni surveyed 104 teachers and 12 school administrators. The study found that while most teachers had received initial CBC training, only 29% had mastered the use of formative assessment tools and learner-centered instructional techniques. The study also revealed a lack of mastery in performance-based evaluation, which is central to CBC. A conceptual gap was noted in the alignment between teacher training content and classroom realities, recommending the need for curriculum-specific pedagogical content enhancement.

Chege and Njuguna (2023) conducted a financial audit of CBC implementation in selected public schools across Kiambu and Murang'a counties. Their mixed-method study involved 45 school heads and 8 County Education Officers. Findings indicated that over 70% of the schools lacked adequate financial resources to support CBC activities such as project-based learning, acquisition of digital devices, and teacher capacity-building programs. The government's capitation was deemed insufficient and irregular, leading to delays in procurement of CBC learning materials. The study emphasized that financial inadequacy undermines curriculum equity, especially in rural schools where parents cannot fill resource gaps. The methodological gap noted was that many budgetary allocations failed to account for CBC-specific requirements, calling for a review of the funding model to reflect competency-based needs rather than legacy structures.

In their study of CBC financing in rural schools in Kisumu and Homa Bay counties, Ochieng and Mutinda discovered that over 65% of schools lacked adequate CBC learning materials due to budgetary shortfalls. Interviews with school heads revealed dependence on parents for project funding, exacerbating inequalities among learners. The contextual gap here was the mismatch between government funding frameworks and CBC demands, highlighting the need for a revised CBC-specific funding policy that addresses practical and resource-based learning requirements.

A recent study by Koech, Odhiambo, and Wanjiku (2024) investigated the infrastructural preparedness of public primary schools for the CBC rollout in Nakuru and Bomet counties. Using observational checklists and interviews with 50 school heads, the study reported that less than 40% of schools had adequate classroom space, science laboratories, or ICT infrastructure necessary for competency-based instruction. Many schools operated in temporary structures or shared facilities with primary sections. Furthermore, it was found that the infrastructural inadequacies disproportionately affected learners in marginalized and arid regions, compromising the uniformity of CBC implementation. The conceptual gap identified relates to the mismatch between curriculum expectations and physical learning environments, necessitating urgent investment in infrastructure as a key enabler of CBC success.

Investigating infrastructure in Kwale and Kilifi counties Mwakio and Cherono (2023), in their study revealed that only 33% of sampled schools had functional science laboratories and less than 25% had access to digital learning tools. Many schools lacked electricity or internet access. A methodological gap was identified in how infrastructure assessments are conducted, as government reports often overestimate readiness by counting structures that are incomplete or shared across multiple school levels. The study recommended targeted infrastructure mapping to accurately inform resource allocation.

METHODOLOGICAL DESIGN

This study employed a desktop review research design to systematically evaluate the preparedness of public primary school teachers for CBC adoption in Township Ward, Garissa County. A desktop review is particularly suited to exploratory inquiries where existing scholarly and policy literature provides a sufficient empirical basis (Olawale, Chinagozi & Joe (2023). We began by defining inclusion criteria: sources published between 2017 and 2024, focused on Kenyan CBC implementation at the primary level, and addressing teacher training, pedagogical competence, or resource availability. Databases consulted included Google Scholar, JSTOR, ERIC, and institutional repositories of the Ministry of Education, KICD, and UNICEF Kenya. Grey literature such as county directorate reports, policy briefs, and conference proceedings was also incorporated to capture localized data on Garissa County's educational context.

Data extraction and synthesis followed a thematic content analysis approach (Humble & Mozeliuss (2022) Each document was reviewed for information on: (a) CBC-related in-service training coverage; (b) teachers' self-reported confidence in learner-centered methodologies; and (c) access to curriculum support materials and instructional infrastructure. Themes were coded iteratively, allowing convergence of findings across sources and identification of gaps specific to Township Ward. The synthesis yielded a nuanced picture of teacher preparedness, highlighting both systemic constraints such as limited professional development opportunities and resource shortages and emerging best practices in remote and arid settings. This method ensured rigorous, evidence-based insights to inform policy and practice in support of equitable CBC rollout.

RESEARCH FINDINGS

The reviewed studies collectively illuminate significant challenges facing the implementation of the Competency-Based Curriculum (CBC) in Kenya, particularly regarding teacher competency, financial adequacy, and infrastructural readiness. Wambua and Mwangi (2022) provide critical insights into the inadequacy of post-training support, with only 38% of teachers in Machakos County feeling adequately prepared despite attending initial Ministry of Education workshops. From the lens of Vygotsky's Sociocultural Theory, this gap undermines the scaffolding role of teachers in learners' cognitive development, especially in Grades 6–8 where tasks require more advanced facilitation. Vygotsky's emphasis on the importance of guided learning within the Zone of Proximal Development (ZPD) suggests that without ongoing teacher professional development, learners may fail to realize their potential competencies. The absence of continuous mentorship or reflective pedagogical support indicates that policy reforms must extend beyond one-off workshops to sustained capacity-building mechanisms aligned with classroom realities.

Building on this, the findings of Kimeu and Muthoni in Kajiado County reinforce the claim that teacher training programs are misaligned with practical CBC classroom needs. With only 29% of respondents effectively using formative assessment and learner-centered techniques, the implementation remains superficial. Here, Epstein's Theory of Parental and Institutional Involvement becomes relevant schools are not isolated in the CBC ecosystem but are deeply embedded within institutional and policy support systems. If teacher development does not evolve to reflect CBC-specific content knowledge and pedagogical application, then broader curriculum goals such as critical thinking and problem-solving will remain aspirational. The conceptual gap between training content and the demands of a CBC classroom underscores a systemic weakness in curriculum design and teacher preparation coherence.

The financial dimension is equally troubling. Chege and Njuguna (2023), as well as Ochieng and Mutinda, expose how underfunding and irregular capitation compromise the realization of equitable CBC implementation. More than 70% of sampled schools in Kiambu and Murang'a lacked funds for essential CBC activities, while

rural schools in Kisumu and Homa Bay reported heavy reliance on parents for supplementary resources. This brings Bronfenbrenner’s Ecological Systems Theory into play, particularly the exosystem and macrosystem levels where government policies and economic structures directly affect school operations. A curriculum model rooted in performance-based learning and digital integration cannot thrive in environments where material inequity persists. Moreover, the disconnect between government budgeting and actual classroom needs such as funding for science kits, ICT tools, and continuous assessments signals an urgent need for CBC-specific financial planning and tracking mechanisms that align with competency-driven outcomes.

On infrastructure, Koech et al. (2024) and Mwakio & Cheron (2023) point to severe limitations in the physical and technological environments required for CBC delivery. With less than 40% of junior secondary schools equipped with proper science labs and ICT tools, and many schools lacking electricity or internet, the capacity for experiential and digital learning key CBC pillars remains underdeveloped. These findings resonate with Vygotsky’s view of the learning environment as a critical mediator of knowledge construction, as well as Bronfenbrenner’s emphasis on the microsystem and mesosystem spaces where learners directly interact with resources and facilitators. The methodological gap identified in infrastructure evaluations also questions the reliability of national reporting mechanisms and suggests the need for localized, school-level audits to inform policy decisions.

BRIDGING GAPS: PROPOSED MODEL AND RECOMMENDATIONS

Proposed Model

The Proposed Model for Strengthening Public Primary Teacher Preparedness and Equitable Implementation of the (CBC) in Marginalized Regions conceptualizes how multi-dimensional factors teacher development, pedagogical alignment, financing, infrastructure, decentralization, and stakeholder governance interact to enable successful CBC implementation. It draws from Vygotsky’s Sociocultural Theory, Bronfenbrenner’s Ecological Systems Theory, Epstein’s Model, and Stakeholder Theory.

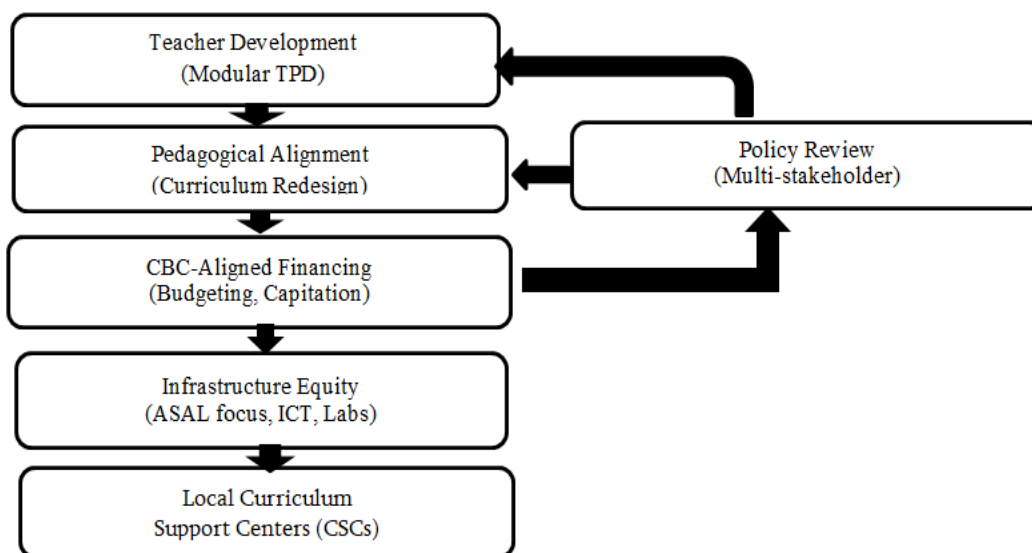


Figure 1: An Integrated Framework for CBC Implementation in Marginalized Regions of Kenya

Table 1: Linking Teacher Development, Infrastructure, and Governance in Marginalized Kenyan Contexts

Component	Key Strategy	Operational Mechanism	Expected Outcome	Theoretical Foundation
Teacher Capacity Development	Continuous, modular in-service TPD	Mentoring, coaching, school-based CPD	Improved instructional competence in CBC delivery	Vygotsky’s ZPD (scaffolding for growth)

Pedagogical Alignment	Curriculum redesign for teacher education	Performance-based, project-based learning integration	Coherence between training and classroom practice	Instructional Design Theory
Competency-Aligned Financing	CBC-specific budget formula	Resource allocation for science kits, ICT, and projects	Equitable and adequate resourcing for CBC	Bronfenbrenner's Exosystem
Infrastructure Equity	National CBC infrastructure tracker	Investments in labs, digital tools, classrooms in ASAL areas	Reduced regional disparities in CBC delivery	Bronfenbrenner's Microsystem
Decentralized Curriculum Support	Sub-county Curriculum Support Centers (CSCs)	Peer coaching, resource hubs, feedback loops	Reflective and empowered teaching workforce	Epstein's Community-School Engagement Model
Multi-Stakeholder Governance	Policy review mechanism with TSC, KICD, NGOs, etc.	Regular gap assessment, feedback incorporation	Responsive and localized CBC policy evolution	Stakeholder Theory

Recommendations

Building on the insights of Wambua & Mwangi (2022) and Kimeu & Muthoni, it is imperative that the Ministry of Education (MoE), in collaboration with the Teachers Service Commission (TSC), develop a mandatory, modular and school-based in-service training framework. This TPD should address practical classroom realities particularly formative assessment, digital integration, and learner-centered methodologies. Drawing from Vygotsky's theory, such programs should include mentoring and peer learning to scaffold teacher growth within their Zone of Proximal Development (ZPD).

There exists a disconnect between teacher training content and actual instructional needs at the classroom level. Teacher education institutions and curriculum developers must ensure that CBC training curricula reflect classroom demands. Emphasis should be placed on performance-based assessment, project-based learning, and individualized instruction.

As highlighted by Chege & Njuguna (2023), the current government capitation model is inadequate. The Ministry of Education should initiate a CBC-specific funding formula that factors in infrastructure development, ICT integration, science kits, and co-curricular project support. This should be anchored in the Public Finance Management Act to ensure accountability and timely disbursement. Drawing from Bronfenbrenner's exosystem, financial policy is a structural enabler of curriculum success and must match learning demands.

Infrastructure is a foundational enabler of competency-based learning. Based on the findings of Koech et al. (2024) and Mwakio & Cherono (2023), the government must commit to urgent investment in classroom expansion, laboratory construction, and school digital infrastructure especially in ASAL and marginalized counties such as Garissa. A national CBC Infrastructure Tracker should be introduced to regularly audit readiness and inform equitable resource allocation. The microsystem, as emphasized by Bronfenbrenner, must provide learners with adequate tools to thrive.

To reduce dependency on centralized teacher training, the MoE should establish Curriculum Support Centers at the sub-county level. These hubs would offer peer-coaching, resource-sharing, ICT access, and continuous formative feedback. This aligns with Epstein's model by fostering collaboration between institutions and communities, while also empowering teachers to engage in reflective practice without isolation.

The implementation of CBC must be guided by a dynamic policy review structure involving Teachers Service Commission (TSC), Kenya Institute of Curriculum Development (KICD), Kenya Primary School Heads Association (KEPSHA), Non-Government Organizations (NGOs), development partners, and local education stakeholders. Such a mechanism would continuously assess gaps in training, funding, and infrastructure while ensuring that curriculum implementation remains responsive to localized needs especially in historically underserved regions like Township Ward in Garissa County.

CONCLUSIONS

The implementation of the Competency-Based Curriculum (CBC) in Kenya presents a transformative shift in pedagogy, yet its success is largely dependent on the preparedness and support structures surrounding classroom teachers. This study focused on public primary schools in Township Ward, Garissa County a region grappling with deep-seated educational marginalization. The findings revealed that teachers in this context face significant constraints, including insufficient CBC-specific training, inadequate access to curriculum resources, and limited infrastructure, all of which hinder effective curriculum delivery. The evidence highlights that without addressing these foundational challenges, the broader goals of CBC such as fostering critical thinking, creativity, and learner autonomy may remain unattainable in underserved regions. Finally, strengthening CBC adoption in marginalized areas requires more than policy rollout; it demands systemic alignment, adequate resourcing, and continuous capacity-building. By operationalizing recommendations, education stakeholders can promote equitable access to quality, competency-driven education and ensure that no learner is left behind due to geographic or structural disadvantage.

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