

Teachers' Conceptions of Innovation-Driven Pedagogical Practices in 21st-Century Classrooms in Competency-Based Education, Kenya

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Abstract

Globalisation, changing market demands, and rapid digitalisation have driven global transformation in education, intensifying the adoption of innovation-led pedagogical approaches within Competency-Based Education (CBE) systems worldwide. In Kenya, the adoption of CBE positions educators at the centre of pedagogical innovation, as key actors in translating curriculum intentions into effective practices in 21st-century classrooms. Nevertheless, teachers' conceptions of innovation play a critical role in shaping how these pedagogical approaches are understood, adopted, and implemented. The current study qualitatively explores teachers' conceptions of innovation-driven pedagogical practices aligned with 21st-century classroom demands within the context of Kenya's Competency-Based Education (CBE). Informed by an interpretive phenomenological research design, the study examines teachers' lived experiences and the meanings they attach to pedagogical innovation in CBE classrooms. Data were drawn from an in-depth thematic analysis of peer-reviewed scholarly literature, national policy documents, and selected international education frameworks relevant to competency-based and innovative teaching pedagogies. The analysis highlights how educators conceptualise innovation and how these conceptions influence classroom enactment. The findings demonstrate that educators basically conceptualise innovation in terms of curriculum responsiveness, learner empowerment, professional transformation and technology integration. Teachers includes innovation-driven approaches with active learning, collaboration, critical thinking and the development of transferable 21st century competencies. Nevertheless, innovation is also seen as constrained by capacity gaps, institution limitations, systematic challenges within the education system and inadequate resources. Overall contextual realities, teachers' beliefs' and professional experiences greatly shaping the adoption of innovation-driven pedagogical approaches in CBE 21st classrooms. The study informs to strengthen institutional support, sustained professional development and coherent policy implementation to enhance effective and sustainable innovation in Kenya's CBE classrooms.

Keywords: competency-based, innovation, teachers' conceptions, phenomenology, kenya

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1.0 Introduction

1.1 Background Context

Global transformation in education system is going through profound changes due to rapid technology advancement, globalisation and shifting socio-economic labour market demands (OECD; UNESCO). The changes prompted from a heavy content-curriculum transforming into pedagogies that is learner agency, transferable skills and adaptability (Trilling & Fadel; Fullan). Competency-based Education (CBE) emerged as a major response to these demands, focusing on the development of competencies including critical thinking, creativity, collaboration and problem-solving in the context of authentic learning.

Kenya's adoption of Competency-Based Education (CBE) represents a national curriculum reform with significant institutional and social implications (Republic of Kenya). The reform reconfigures teaching and learning processes and positions teachers as central actors in translating policy intentions into classroom pedagogies. Central to this process is the expectation that teachers will adopt innovation-driven teaching approaches that promote learner-centred pedagogies, continuous assessment, and experiential learning (Republic of Kenya). Nevertheless, pedagogical innovation is shaped by teachers' beliefs, prior experiences, professional identities, and the systemic conditions of the institutions within which they operate.

From a social science perspective, teachers' conceptions of innovation are critical because they mediate the relationship between curriculum policy and classroom practice (Ball, Maguire, and Braun). Understanding how teachers conceptualise innovation-driven pedagogy provides insight into how educational reforms are interpreted, negotiated, and enacted at the local level. Despite the centrality of teachers in Kenya's CBE reform, limited empirical research has examined their conceptions of innovation within 21st-century classrooms, creating a gap in understanding how curriculum change is socially constructed and experienced in practice (Mutisya & Makokha; Orodho).

1.2 Significance of the study

This study is of significance for education and social science in many different ways. Firstly, it contributes to empirical evidence with regard to the conceptions of teachers on innovation driven teaching practices in the context of a key reform in the national curriculum in a developing country context. Secondly, the study interrogates the role of institutional structures, human agency, and contextual realities in shaping educational change. Thirdly, the findings outline policy-relevant insights for teachers, curriculum developers, and administrators intending to strengthen the implementation of competency-based education through professional development and context-responsive support. More broadly, the research informs social science discussions on educational innovation, policy enactment, and teacher agency.

1.3 Research questions

The study is guided by the following research questions:

- i. How is innovation-driven teaching conceptualised in the literature within the

- context of Competency-Based Education in Kenya?
- ii. What meanings and interpretations of innovation in 21st-century classrooms are represented in existing educational research and policy literature?
 - iii. What institutional and contextual factors influencing the enactment of innovation-driven pedagogy are identified in the literature on Competency-Based Education?
 - iv. How do existing studies and policy analyses describe the influence of teachers' beliefs and professional experiences on the implementation of pedagogical innovation under CBE?

1.4 Objectives of the study

The objectives of the study are to:

- i. To examine teachers' perceptions of technology-based innovation as both an enabler and a barrier to the implementation of innovation-driven pedagogical practices in Competency-based education classrooms.
- ii. To explore teachers' experiences and interpretations of the shift toward learner-centred pedagogical practices within 21st-century classrooms under the Competency-Based Education framework.
- iii. To investigate the role of teacher professional development and teacher preparedness in shaping the adoption and enactment of innovation-driven teaching practices in competency-based education.

2.0 Literature Review

To keep pace with rapid technological advancement, 21st-century education must move beyond the transmission of factual knowledge. It must intentionally develop key transversal skills commonly referred to as the 4Cs, creativity, critical thinking, communication, and collaboration which are essential for problem-solving, innovation, teamwork, and lifelong learning (Binkley et al.). However, research indicates that traditional classroom structures often constrain the effective implementation of innovative pedagogical practices. According to findings from the teaching and learning international Survey (TALIS), many teachers perceive existing classroom layouts as barriers to the adoption of new instructional approaches (OECD). Similarly, a European schoolnet report observes that teacher-centred classroom designs tend to limit collaborative and interactive learning methods (Ayre). In contrast, flexible learning environments are shown to better support project-based learning and foster creativity and innovation.

Teachers' perceptions play a critical role in determining the extent to which innovative pedagogical strategies are successfully implemented. When teachers hold positive attitudes toward innovation, they are more likely to integrate technology, inquiry-based learning, and learner autonomy into their instructional practices (Tondeur et al.; Voogt and Robin). Conversely, innovation is frequently impeded by low technological confidence, rigid curricular structures, and insufficient institutional support. Evidence from TALIS underscores the importance of teacher self-efficacy and professional willingness to embrace pedagogical change (OECD). Although innovation-driven pedagogy is widely promoted as a global educational priority, its realisation remains uneven due to disparities in institutional readiness,

resource allocation, and organisational capacity (Fullan). The literature stresses the need to understand these teacher conceptions in order to better support innovative teaching in modern classrooms.

3.0 Methodology

This paper adopts a qualitative interpretive thematic literature review approach. Rather than collecting primary data, the study synthesizes existing secondary sources to examine teachers' perspectives on innovation-driven pedagogy. The review draws on peer-reviewed academic articles, Kenyan education policy documents, and international reports published by organizations such as UNESCO and the OECD.

The analysis follows Braun and Clarke's (2006) six-step framework for thematic analysis, involving familiarisation with the literature, systematic coding of relevant textual data, generation and refinement of themes, and synthesis of recurring patterns across sources. By consolidating themes reported in prior studies and policy analyses, this approach facilitates a comprehensive and nuanced understanding of how teachers' perspectives on pedagogical innovation are represented within existing scholarship.

3.1 Findings: Thematic analysis

3.1.1 Theme 1: Innovation in Technology as an Enabler and Barrier

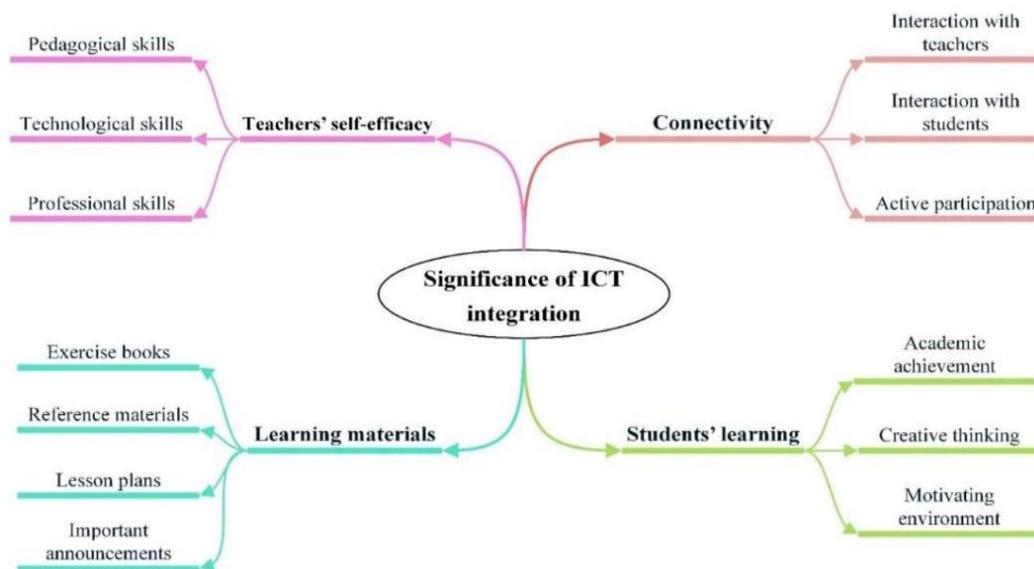


Figure 1 Conceptual model on ICT integration in teaching

According to existing research, the use of technology in Kenyan classrooms both aids and hinders the implementation of innovation-driven pedagogy. Teachers recognise that information and communication technologies (ICT) can effectively support learner-centred instruction, collaboration, creativity, and innovative assessment practices, all of which are essential components of competency-based education (OECD; UNESCO).

Despite recognising the value of digital tools, empirical studies from Kenyan public schools reveal persistent infrastructural and capacity-related challenges. While teachers appreciate

technology for enhancing lesson organisation, student engagement, and group activities, many schools continue to struggle with insufficient devices, unreliable internet access, and a lack of continuous pedagogical support necessary for successful technology integration (Koehler & Mishra; Republic of Kenya). Such constraints significantly restrict teachers' ability to translate their positive conceptions of technological innovation into consistent classroom practice, resulting in the non-uniform implementation of innovation-driven pedagogy.

3.1.2 Theme 2: Innovative shift Toward Learner-Centred Pedagogy



Figure 2 Conceptual diagram on learner centred pedagogy

A central theme in both educational policy documents and academic research is the move toward learner-centred pedagogy as a key characteristic of competency-based education (CBE). CBE frameworks stress replacing traditional lectures with active, participatory, and experiential learning strategies (OECD).

Secondary analysis of Kenyan CBE policy guidelines and international education frameworks emphasises the promotion of learner-centred strategies. These include methods such as project-based learning, collaborative group work, inquiry-based instruction, and authentic assessment (UNESCO; Republic of Kenya). The intent behind these strategies is to improve learner agency and critical thinking, helping students apply their competencies effectively in real-world contexts.

Despite significant policy advocacy, research indicates that the full implementation of learner-centred pedagogy is often hindered by practical constraints. These include limited instructional guidance, assessment pressures, large class sizes, and insufficient professional support (Fullan; Ertmer). Consequently, there is often a sharp contrast between teachers' positive conceptions of student-centred innovation and the actual practical realities of the classroom.

3.1.3 Theme 3: Teacher Preparedness and Professional Development

Across multiple empirical studies, the provision of robust teacher training and professional development emerges as a critical prerequisite for the successful implementation of innovation-

driven pedagogical practices within competency-based education environments. Research on CBE implementation shows that teachers who benefit from ongoing professional development, mentorship, and pedagogical support are better equipped to employ learner-centred strategies, integrate technology, and align their instruction with competency-based objectives (Ertmer; OECD).

Empirical evidence suggests that targeted professional learning opportunities enhance teacher self-efficacy, instructional adaptability, and openness to adopting new teaching practices (Fullan; UNESCO). However, access to this vital professional development remains unequal, particularly in rural and marginalised contexts characterised by limited institutional support and training infrastructure (Republic of Kenya).

This disparity significantly limits teachers' ability to transform their positive conceptions of teaching innovation into effective classroom practice. This gap persists even when educational policy frameworks strongly advocate for innovative and learner-centred approaches.

4.0 Discussion

The themes reveal an important insight: teachers often hold positive conceptions of pedagogical innovation as essential for 21st-century learners. However, systemic constraints such as infrastructural deficits, a lack of targeted professional development, and ambiguous policy directives diminish the likelihood of successfully operationalising these conceptions in practical settings.

These findings are consistent with broader CBE research outcomes, which underscore the need for cohesive and integrated policy frameworks. Such frameworks should combine curriculum reforms with robust teacher support systems and essential infrastructural development to enable successful implementation.

5.0 Policy and Practice Implications

5.1 Based on the thematic analysis, the following implications emerge:

Strengthen ICT infrastructure: The provision of reliable internet access and appropriate educational technologies can enhance the effective integration of innovative pedagogical practices.

Enhance professional development: Priority should be given to establishing structured and continuous professional development programmes designed to equip teachers with learner-centred and technology-enabled instructional strategies.

Support teacher agency: Policies should empower teachers by granting them greater autonomy to make instructional decisions and adapt innovative practices to meet the specific needs of their local classroom contexts.

These recommendations align with current literature advocating for comprehensive support systems in education reform.

5.2 Conclusion

By utilising thematic analysis to a corpus of online literature, this study investigates how teachers' knowledge of innovative pedagogical approaches are represented in relation to Kenya's Competency-Based Education (CBE) reform. Drawing on international reports, peer-reviewed studies, and policy documents, the review points out the recurring themes related to teachers' perceptions, challenges and capacities in enacting innovation-driven pedagogy. The findings reveal that teachers widely recognise the value of teaching innovation, particularly learner-centred pedagogies that emphasise, critical thinking, creativity, problem-solving and collaboration. Such approaches are widely viewed as aligned with the goals of CBE and inline to the demands of 21st-century education.

However, the literature steadily highlights substantial constraints that constrain the practical realisation of these teaching ideals. Great among these challenges are inadequate access to digital technologies, insufficient opportunities and limited instructional resources for sustained professional development. Many studies further indicate that, rigid assessment structures, large class sizes and uneven institutional support aggravate these constraints, thereby creating a gap between classroom realities and policy expectations. Teachers' capacity to innovate is therefore not only shaped by individual attitudes and beliefs but also by broader systemic and contextual factors.

Overall, the findings indicate the importance of aligning curriculum reform with substantive teacher support mechanisms. The review provides a background for future policy interventions and empirical research that prioritise continuous professional learning, institutional readiness and improved infrastructural provision as critical enablers of effective CBE implementation in Kenya.

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