

KEMI Journal of Educational Leadership and Management

KJELM

[ISSN 3079-4048]

Volume: 2 Issue: 3 | Nov-2026

Integration of competency-based education in the university sector in Kenya

Naomi Nyambura Ndichu[1], **Alice Wacera Waruingi**[1]

Africa International University, Kenya[1]

Corresponding Author Email: nnndichu@yahoo.com

Cite this article in APA

https://doi.org/10.68147/2c2b9859

Copyright: ©2026 by the author(s). Open access under CC BY.

Abstract

This study investigates the integration of Competency-Based Education (CBE) in Kenyan institutions of higher learning and its effects on teaching, learning, and graduate employability. In response to 21st-century labor market demands, Kenya is transitioning from the traditional 8-4-4 system, which has been criticised for its theoretical and exam-oriented approach, to a learner-centred CBE framework. The study addresses five objectives: evaluating pedagogical differences, curriculum integration, implementation challenges, institutional capacity, and graduate outcomes. It is grounded in Competency-Based Education, Constructivist, and Human Capital theories. The research employs a qualitative approach and descriptive design, utilising a systematic review of recent policy documents, peer-reviewed journals, and institutional reports, analysed through thematic content analysis. Findings indicate that the 8-4-4 system is teacher-centred, whereas CBE emphasizes continuous assessment and practical competencies. Nevertheless, CBE integration in Kenyan universities is incomplete and inconsistent. Major obstacles include insufficient lecturer training, large class sizes, limited funding, resistance to change, and inadequate infrastructure. Despite these barriers, CBE shows significant potential to enhance essential soft and technical skills, including teamwork, problem solving, communication, and critical thinking, which are expected to improve graduate employability, although empirical evidence remains limited. The study concludes that CBE provides a more relevant educational approach than the 8-4-4 system, contingent upon addressing key implementation barriers. It recommends that the government and universities invest in professional and infrastructural development, reform curriculum and

assessment methods, and strengthen industrial collaborations to better align education with labor market requirements. This research offers strategic insights for stakeholders seeking to enhance the quality of higher education in Kenya.

Key terms: Competency-Based Education, Higher Education, Curriculum Reform, Graduate Employability, Lecturer Preparedness, Institutional Capacity, Skills Acquisition, Kenya

1.0 INTRODUCTION

1.1 Background of the Study

Globally, education systems are undergoing significant transformations within governments and educational institutions to address the demands of the 21st-century labour market. The traditional 8-4-4 system, which emphasises content mastery and summative evaluation, has been criticised for inadequately equipping learners with critical thinking abilities, practical skills, and competencies required in the modern economy (Mulder, 2017). Consequently, many countries are transitioning to Competency-Based Education, which prioritises the acquisition of knowledge, skills, and attitudes essential for real-world economic contexts.

In Kenya, the 8-4-4 education system, introduced in 1985, comprises four years of primary education, four years of secondary education, and four years of tertiary education. While this system was intended to promote technical skills and self-reliance, it has been heavily criticised for its focus on theoretical knowledge, examinations, and rote learning (Sifuna & Otiende, 2006). As a result, graduates are often perceived as lacking the practical skills and competencies required by the labor market.

The impetus for systemic educational reform in Kenya was largely driven by the Odhiambo Taskforce (The Taskforce on the Re-alignment of the Education Sector to the Constitution of Kenya 2010), which provided a blueprint for transitioning the country's educational structures toward competency-based outcomes. While basic education adopted this framework, the structural and academic integration of CBE within universities accelerated following the Munavu Report of 2023 (the Presidential Working Party on Education Reform-PWPER). This report outlined baseline metrics, institutional challenges, and transition methodologies necessary for implementing CBE in universities, thereby establishing the legal and developmental context for its broader impact on higher education.

Despite the potential benefits of CBE, its integration into educational institutions has encountered significant challenges. Research indicates that effective CBE implementation necessitates trained personnel, sufficient financial resources, adequate infrastructure, and supportive institutional policies (Mulder, 2017; Wambui, 2020). However, many Kenyan universities face obstacles such as insufficient lecturer preparedness, inadequate curriculum alignment, and limited resources, which impede the effective adoption of competency-based approaches.

The emphasis on graduate employability underscores the necessity of transitioning from the traditional education system to CBE. Employers increasingly require a workforce equipped with practical skills, adaptability, and the ability to address real-world challenges. CBE aims to bridge the gap between education and labor market needs by ensuring graduates possess relevant competencies (World Bank, 2019). Nevertheless, empirical evidence regarding the effectiveness of CBE in enhancing graduate outcomes in Kenyan higher education institutions remains limited.

Given this context, the present study examines the integration of CBE in Kenyan universities. It focuses on CBE implementation, lecturer preparedness, associated challenges, and the impact on graduate outcomes. To facilitate a comprehensive understanding of the ongoing educational transition, the study

compares the traditional education system with the Competency-Based Education system.

1.2 Statement of the Problem

The integration of Competency-Based Education (CBE) is central to achieving the human capital objectives outlined in the Social Pillar of Kenya Vision 2030 and Sessional Paper No.1 of 2019, both of which mandate a shift from exam-oriented structures to skill-based learning. For decades, the traditional 8-4-4 education system has been criticized for its heavy focus on rote learning and theory. This structural bias has created a severe skills mismatch, where university graduates possess substantial academic knowledge but lack the practical, 21st-century competencies employers require. This systemic gap directly contributes to rising levels of graduate unemployment and underemployment across the country. In response, the Government of Kenya introduced CBE to align higher education with labor market demands. However, while the Universities Act (2012) tasks institutions with updating their curricula, actual implementation remains slow and inconsistent due to systemic bottlenecks. Universities continue to grapple with severe challenges, including inadequate lecturer training, institutional resistance to learner-centered pedagogies, deficient digital and physical infrastructure, and strict financial constraints. Compounding these execution challenges is a distinct shortage of empirical literature addressing CBE integration specifically within Kenyan higher education. Existing research offers minimal evidence regarding university-level curriculum restructuring, teaching practices, or measurable graduate employability outcomes. Without this data, policymakers and institutional stakeholders lack the actionable insights required to assess CBE effectiveness or resolve ongoing implementation barriers. This study directly addresses this research gap by evaluating CBE integration in Kenyan universities, focusing on institutional readiness, implementation challenges, pedagogical practices, and the framework's overall impact on practical skills acquisition and graduate employability.

1.3 Purpose of the Study

The purpose of this research is to examine the integration of Competency-Based Education in institutions of higher learning in Kenya and its implications for teaching, learning, and graduate employability.

1.4 Research Objectives

1.4.1 General objective

To examine the integration of Competency-Based Education (CBE) in institutions of higher learning in Kenya and its implications for teaching, learning and graduate outcomes.

1.4.2 Specific Objectives

(i) To compare pedagogical approaches and learning outcomes of the 8-4-4 system and Competency-Based Education (CBE) in Kenyan universities.

(ii) To assess the extent of integration of CBE into curriculum and instructional practices in Kenyan universities.

(iii) To examine the challenges affecting the implementation of CBE in Kenyan universities.

(iv) To evaluate lecturer preparedness and institutional capacity to deliver CBE in Kenyan universities.

(v) To analyse the impact of CBE on graduate employability and skills acquisition in Kenyan universities.

1.5 Research Questions

1. How do pedagogical approaches and learning outcomes of the 8-4-4 system compare with those of Competency-Based Education (CBE) in Kenyan universities?
2. To what extent has Competency-Based Education (CBE) been integrated into curriculum and instructional practices in Kenyan universities?
3. What challenges affect the implementation of CBE in institutions of higher learning in Kenya?
4. How prepared are lecturers and institutions towards implementation of Competency- Based Education?
5. What are the effects of CBE on graduate employability and skills acquisition in Kenyan universities?

1.6 Significance of the Study

This study is significant as it provides education stakeholders and policymakers with insights into the effectiveness of ongoing reforms and identifies areas requiring improvement. It supports lecturers and learning institutions in recognising gaps in the implementation of Competency-Based Education (CBE), enabling the development of more effective strategies to enhance teaching and learning practices. Additionally, the study informs students and employers about the influence of educational approaches on skill acquisition and employability.

1.7 Scope of the Study

The study focuses on institutions of higher learning in Kenya, particularly universities. It examines the integration of Competency-Based Education (CBE) into curricula and instructional practices, compares CBE with the 8-4-4 system, and evaluates its impact on graduates' employability. The study further explores institutional preparedness for CBE implementation and identifies challenges that hinder effective implementation.

1.8 Limitations of the Study

The study may face various limitations, including variation in implementation levels among universities and possible bias in participants' self-reported responses. Financial and time constraints hinder data collection.

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature relevant to the topic under study. The review is guided by the study objectives and is organised into the following sections: theoretical framework, empirical review, conceptual framework, and research gap. The chapter examines the conceptual foundations of Competency-Based Education (CBE), compares CBE with the traditional 8-4-4 education system, evaluates the influence of 8-4-4 on graduate skill acquisition and employability, and explores challenges affecting CBE implementation in institutions of higher learning.

2.2 Theoretical Review of Literature

2.2.1 Competency-Based Education (CBE) Theory

This theory is grounded in the principle that learning should be outcome-oriented, emphasising the acquisition and demonstration of clearly defined competencies rather than the duration of instruction

(Mulder, 2021). The theoretical roots of Competency-Based Education (CBE) can be traced to Benjamin Bloom, who advanced the concept of mastery learning by asserting that adequate time and appropriate learning conditions enhance understanding (Bloom, 1968). This perspective aligns with CBE, which emphasizes progression based on demonstrated proficiency.

2.2.2 Constructivist Learning Theory

Constructivist learning theory posits that learners acquire knowledge through prior experiences and interaction with their environment. This theory is primarily attributed to Jean Piaget, who emphasized learning as a cognitive development process in which learners construct mental structures through accommodation and assimilation (Piaget, 1972). Lev Vygotsky expanded on this by introducing social constructivism, highlighting the importance of cultural context and social interaction in learning through the Zone of Proximal Development (Vygotsky, 1978). John Dewey further emphasized experiential learning, advocating for education grounded in active participation and real-life experiences (Dewey, 1938). In the context of CBE, constructivist principles underpin learner-centered approaches such as collaborative learning, problem-based learning, and experiential activities (UNESCO, 2021). These approaches foster practical skill acquisition, critical thinking, and creativity.

2.2.3 Human Capital Theory

Human Capital Theory was developed by Theodore Schultz and later expanded by Gary Becker. It posits that investment in education and training enhances skills, individual productivity, and economic value (Schultz, 1961; Becker, 1964). The theory conceptualizes education as an investment that yields returns in the form of employment opportunities, economic growth, and increased earnings. Competency-Based Education (CBE) aligns closely with Human Capital Theory by focusing on the development of market-relevant competencies. This alignment contributes directly to national development and workforce readiness (World Bank, 2020). CBE ensures that the education system produces graduates who meet labor market demands by emphasising measurable skills and performance outcomes.

2.3 Empirical Review of Literature

2.3.1 Comparison of Pedagogical Approaches and Learning Outcomes between 8-4-4 and CBE

Empirical literature comparing Competency-Based Education (CBE) and the 8-4-4 system highlights fundamental differences in pedagogical approaches and learning outcomes. Historically, the 8-4-4 system emphasised teacher-centred instruction, content coverage, and high-stakes summative examinations that prioritised memorisation over practical application of knowledge (Kenya Institute of Curriculum Development [KICD], 2020). Studies indicate that the 8-4-4 approach has contributed to a mismatch between graduates' academic qualifications and labor market expectations (Nyerere, 2020).

In contrast, Competency-Based Education (CBE) employs a learner-centred, outcome-based approach. It emphasizes mastery of competencies through practical application and continuous assessment. Research demonstrates that competency-based approaches enhance critical thinking, problem-solving skills, and learner engagement (Waweru & Orodho, 2021). The Organization for Economic Cooperation and Development (OECD, 2022) similarly reports that competency-based systems foster lifelong learning, transferable skills, and adaptability required in the modern economy. Overall, empirical evidence suggests that foundational knowledge acquisition is best supported by the 8-4-4 system, while CBE yields stronger outcomes in learner autonomy and practical skills development.

2.3.2 The Regulatory Framework and University Ecosystem in CBE Integration

The Kenyan higher education ecosystem operates under stringent statutory frameworks that govern how universities design, accredit, and implement academic programs. Central to this system is the Commission for University Education (CUE), established under the Universities Act No. 42 of 2012. During the transition to Competency-Based Education (CBE), CUE functions as the primary regulatory authority responsible for quality assurance, curriculum approval, and institutional auditing. Studies on macro-educational governance indicate that universities cannot independently adopt a CBE curriculum without explicit alignment with CUE's standardized benchmarking instruments. The effectiveness of CBE implementation depends on the operational alignment between internal university senate policies and external CUE compliance requirements. If CUE's accreditation criteria remain based on traditional input-based credit hours, departmental efforts to transition to flexible, output-based competency assessments will face legal and operational constraints. Therefore, understanding the dual pressures of internal university governance and CUE regulatory oversight is essential for evaluating the scalability of CBE within Kenya's higher education sector.

2.3.3 Challenges Facing the Implementation of CBE in Higher Education

Despite the great benefits of CBE, its implementation in Kenya has faced several challenges. These include inadequate infrastructure, limited institutional capacity, and inadequate learning materials (World Bank, 2020). Furthermore, large class sizes have hindered learner-centered approaches. Another challenge is insufficient training on competency-based pedagogies among lecturers. Many educators in institutions of higher learning lack the skills needed to design competency-based curricula and assessments (UNESCO, 2021). This limits the consistency and effectiveness of CBE implementation.

Resistance to change among lecturers, who often continue to use traditional teaching methods due to institutional culture and familiarity, presents an additional challenge (Nyerere, 2020). Assessing competencies, particularly soft skills such as teamwork and communication, also remains difficult (OECD, 2022). Furthermore, weak collaboration between industry and universities significantly hinders effective CBE integration.

2.3.4 Lecturer Preparedness and Institutional Capacity for CBE Delivery

The successful integration of Competency-Based Education (CBE) is highly dependent on institutional capacity and lecturer preparedness. Studies indicate that many lecturers in higher education institutions have not received competency-based training, which is essential for adopting learner-centred approaches (UNESCO, 2021). These lecturers also encounter challenges in developing competency-based assessments and facilitating active learning environments.

Institutional capacity is a critical factor in the integration of Competency-Based Education (CBE). Universities with access to digital technologies, adequate infrastructure, and strong industry partnerships are better positioned to implement CBE effectively (World Bank, 2020). In contrast, universities with limited resources face challenges in providing experiential and practical learning opportunities. Additionally, insufficient professional development training for academic staff slows the transition to competency-based assessment.

2.3.5 Impact of CBE on Graduate Employability and Skills Acquisition

Studies indicate that Competency-Based Education (CBE) positively influences skill acquisition and graduate employability. CBE approaches facilitate the development of transferable, practical skills such

as teamwork, problem-solving, adaptability, and communication, which are highly valued in the labour market (International Labour Organisation [ILO], 2021). In Kenya, learners exposed to competency-based approaches demonstrate higher levels of adaptability and job readiness compared to those trained under the traditional education system (Waweru & Orodho, 2021).

2.3.6 Policy Implications of CBE Implementation

Assessing the integration of Competency-Based Education (CBE) within the university sector carries significant systemic policy implications, shifting accountability from rigid administrative inputs to dynamic, labour-market-driven outputs. Structural evaluations indicate that although macro-level national frameworks such as the Universities Act (2012) and Sessional Paper No. 1 of 2029 mandate curriculum modernisation, a pronounced executive gap remains due to the absence of institutionalised policy enforcement guidelines at the university level. Therefore, policy instruments should evolve from broad declarations to targeted regulatory interventions. This evolution includes revising institutional funding policies to move away from enrollment-based metrics toward resource allocation models that prioritize subsidies for digital infrastructure, modern laboratory spaces, and professional faculty development (World Bank, 2021). Additionally, a comprehensive CBE assessment underscores the urgent need for cross-sectional policy harmonization. Effective alignment requires direct coordination between the Ministry of Education and industrial regulatory bodies to institutionalise mandatory, structured internships, workplace-based attachment policies, and public-private curriculum co-design frameworks (Ng'ang'a, 2022; OECD, 2022).

2.3.7 Methodological Implications of CBE Assessment

Evaluating CBE within higher education institutions introduces complex methodological imperatives that challenge traditional, examination-centric research paradigms. The traditional 8-4-4 system primarily relied on standardized, summative testing metrics, resulting in scholastic assessments that emphasized quantitative designs measuring rote memorisation (KICD, 2020). In contrast, examining CBE integration necessitates multi-dimensional, competence-oriented research frameworks that emphasize qualitative depth and behavioral tracking. Researchers are required to employ mixed-method approaches and longitudinal tracer studies to accurately capture the development of non-cognitive, non-linear variables such as critical thinking, adaptability, and teamwork over extended post-graduation periods (Mulwa et al., 2023; Waweru & Orodho, 2021). Methodologically, assessing these evolving pedagogies demands robust data triangulation, which involves combining structural curriculum content analysis, direct classroom observation matrices, and industry feedback loops (Braun & Clarke, 2021). This approach ensures that evaluations extend beyond surface-level compliance with course outlines to verify substantive transformative changes in instructional delivery and formative student portfolios (Hida et al., 2025).

2.4 Conceptual framework

Figure 2.1 below depicts the influence of independent variables, including curriculum integration, pedagogical approaches, institutional capacity, and lecturer preparedness, on skills acquisition and graduate employability. The relationship is moderated by factors such as resistance to change and resource constraints, while intervening variables like infrastructure and policy support further shape the overall integration of CBE in Kenyan universities.

Figure 2.1 Conceptual Framework

2.4.1 Explanation of the Conceptual Framework

The conceptual framework demonstrates the relationship between Competency-Based Education (CBE) implementation and graduate employability outcomes in Kenyan universities. Curriculum integration, pedagogical approaches, lecturer preparedness, and institutional capacity serve as independent variables influencing the effective implementation of CBE. Graduate employability and skills acquisition represent the dependent variable. Intervening variables, such as policy support, stakeholder attitudes, and the availability of resources and infrastructure, further affect this relationship. Implementation challenges, including inadequate funding, resistance to change, limited infrastructure, and insufficient lecturer preparedness, act as moderating variables that may constrain the achievement of CBE's intended outcomes. The framework thus underscores that successful implementation of Competency-Based Education requires coordinated institutional, policy, and resource support to enhance graduate competencies and labor market readiness.

2.5 Research Gap

The reviewed literature indicates that CBE has significant potential to enhance the relevance and quality of education by improving practical skills and graduate employability. Compared to traditional approaches such as the 8-4-4 system, CBE is more effective in aligning educational outcomes with labor market demands and fostering real-world competencies. However, notable gaps persist in the literature; most studies concentrate on basic, junior, and secondary education, with limited focus on higher education in Kenya. While numerous papers discuss the establishment of CBE in universities, there is a marked absence of longitudinal studies tracking graduates' employment outcomes. This study seeks to address these gaps by examining CBE integration, institutional readiness, implementation challenges, and the impact on graduate outcomes in Kenyan universities.

2.6 Conceptual Framework Explanation

The conceptual framework for this study is based on the premise that effective integration of Competency-Based Education (CBE) in universities influences the development of graduate competencies and employability outcomes. Curriculum integration, pedagogical approaches, lecturer preparedness, and institutional capacity are identified as independent variables facilitating the effective implementation of CBE. Graduate employability and skills acquisition constitute the dependent variable. The relationship between these variables is shaped by intervening factors such as policy support, stakeholder attitudes, resource availability, and infrastructural capacity. Implementation challenges, including resistance to change, inadequate funding, and limited institutional readiness, serve as moderating variables that can either enhance or diminish the effectiveness of CBE integration. The framework highlights that successful CBE implementation requires a supportive policy environment, sufficient institutional resources, and well-prepared academic staff to improve graduate competencies and employability outcomes.

3.0 RESEARCH METHODOLOGY

To investigate the systemic integration of Competency-Based Education (CBE) within the university sector in Kenya, this study utilizes a Systematic Literature Review (SLR) design (Petticrew & Roberts, 2006). The research applies a macro-level analytical framework, treating published empirical evidence, peer-reviewed journals, and national policy reports as primary units of analysis (Snyder, 2019). Comprehensive electronic database searches were conducted systematically across Google Scholar, ResearchGate, JSTOR, and official portals such as the Kenya Ministry of Education, RUFORUM, the World Bank, and the OECD. The literature retrieval protocol employed precise Boolean keyword strings to identify relevant studies, including "Competency-Based Education" OR "CBE" AND "higher education" OR "universities"

AND "Kenya", "8-4-4 system" AND "CBE" AND "pedagogical approaches", and "graduate employability" OR "skills mismatch" AND "Kenya".

To ensure objective data selection and minimize researcher bias, literature was filtered using explicit eligibility criteria consistent with PRISMA guidelines (Moher et al., 2009). Sources were included based on their direct relevance to the Kenyan higher education or university sector and their provision of peer-reviewed empirical data or official policy evaluations. Studies focusing on primary, secondary, or broader East African contexts without specific Kenyan data were excluded. Data analysis employed a qualitative meta-synthesis approach guided by thematic content analysis (Braun & Clarke, 2021). Extracted findings from secondary sources were systematically mapped onto analytical matrices aligned with the study's core objectives: pedagogical variances, structural integration depth, institutional challenges, faculty preparedness, and graduate employment outcomes. Methodological validity and reliability were ensured through cross-study data triangulation, verifying findings across independent researchers and diverse datasets to reduce source bias (Snyder, 2019). Ethical integrity and academic standards were rigorously upheld by maintaining transparency in data reporting, preventing plagiarism, and adhering strictly to copyright regulations through comprehensive referencing.

4.0 RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents, analyzes, and discusses findings within the context of CBE integration in institutions of higher learning in Kenya. The presentation of findings is guided by the specific objectives outlined in Chapter One, and the analysis is based on the methodologies previously described. A thematic analytical approach was adopted, enabling the synthesis of findings from empirical studies, institutional reports, and policy documents. Several scholarly sources published between 2020 and 2026 were utilized. The focus on recent literature underscores the evolving nature of Competency-Based Education and its increasing significance in higher education systems in Kenya and globally. Table 4.1 below displays the distribution of data sources.

Table 4.1 Distribution of Data Sources

CATEGORY OF SOURCE	FREQUENCY	PERCENTAGE (%)
Peer-reviewed Journal Articles	18	60%
Policy Reports & Institutional Documents	8	27%
Books and Academic Texts	4	13%
Total	30	100%

Table 4.1 presents the data sources in both frequencies and percentages.

4.2 Comparison between CBE and 8-4-4 System

The findings revealed a significant divergence between the 8-4-4 system and the Competency-Based Education (CBE) system regarding teaching and learning approaches and underlying philosophies. The 8-4-4 system primarily focuses on knowledge transmission and is deeply rooted in a content-oriented paradigm. It emphasizes syllabus coverage and examination performance, often at the expense of deeper understanding and knowledge application (Waweru 2021). In contrast, CBE prioritizes competency development and emphasises learner-centred philosophies, enabling learners to apply knowledge in real-

world contexts (Komba & Mwandanji, 2020). This shift signifies a transformation in both instructional methods and the overall purpose of education.

Assessment practices represent a critical area of difference. The 8-4-4 system primarily employs summative evaluation, particularly high-stakes examinations, which tend to encourage surface learning strategies and memorization (Ng'ang'a, 2022). These assessments fail to capture the full range of students' abilities, especially interpersonal and practical skills. In contrast, CBE utilizes both continuous assessment and formative evaluation techniques, including project work, portfolios, and performance-based tasks, which offer a more holistic evaluation of students' competencies (Hida et al., 2025). These CBE methods facilitate continuous feedback and improvement, thereby enhancing the learning process.

Pedagogical approaches also differ significantly, impacting learning outcomes. Graduates of the 8-4-4 system are often noted for strong theoretical knowledge but limited practical application skills. This has led to employer concerns regarding the employability of these graduates (World Bank, 2021). Conversely, CBE emphasizes the development of critical thinking, practical skills, and problem-solving competencies that are directly relevant to the workplace (OECD, 2022). Consequently, CBE is regarded as a more effective approach for preparing learners for the demands of the 21st-century economy.

A further contrast exists in the learner's role. Within the 8-4-4 system, students are typically passive recipients of information, with limited opportunities for independent learning and active engagement. This approach may impede the development of higher-order thinking skills. In contrast, CBE promotes collaboration, active participation, and self-directed learning, aligning with constructivist principles (Alt, 2021). The transition from 8-4-4 to CBE is expected to empower learners to take responsibility for their learning and foster deeper understanding.

Despite its clear advantages, the transition to CBE also presents challenges. Many universities continue to operate under traditional educational systems, hindering the full adoption of CBE. Contributing factors include insufficient training, entrenched institutional cultures, and limited awareness, all of which have led to resistance to change (Mulwa et al., 2023). These issues highlight the complexity of educational reform and underscore the need for comprehensive strategies to support the transition.

Overall, the findings indicate that although CBE provides a relevant and holistic approach to education, its successful adoption necessitates fundamental changes in institutional mindset, pedagogical practices, and assessment methods. This comparison highlights the need for sustained efforts to align the education system with labor market demands.

4.3 Extent of Integration of CBE in Kenyan Universities

The findings indicate that integrating CBE in Kenyan universities is a gradual process marked by both progress and persistent gaps. Although national policy frameworks supporting CBE have been established, their implementation across universities remains inconsistent (Wambui, 2020). This demonstrates that policy adoption alone is insufficient to achieve meaningful change without effective implementation mechanisms.

Curriculum reform represents one of the most visible aspects of CBE integration. Several universities have revised their curricula to include CBE elements such as internships, practical assignments, and project-based learning. These changes reflect efforts to align educational programs with CBE principles and labor market needs (Ng'ang'a, 2022). This also highlights the need for targeted interventions to support lecturers in adopting new teaching methods.

Teaching practices also present a mixed picture. While some lecturers have adopted interactive, student-centered approaches, many continue to rely on traditional lecture-based methods. The persistence of

conventional teaching practices has limited the effectiveness of CBE and highlighted the challenges associated with changing established pedagogical norms (Ng'ang'a, 2022). Targeted interventions are therefore necessary.

Incomplete integration of CBE is evident in assessment practices. Many universities continue to prioritize summative examinations over the formative and continuous assessments required by CBE. This inconsistency undermines CBE principles and diminishes its potential impact on learning outcomes (Hida et al., 2025). Aligning assessment methods within these institutions is therefore essential for effective curriculum implementation.

Institutional support plays a crucial role in facilitating CBE integration. Institutions with robust policies, adequate resources, and clear guidelines are better positioned to implement CBE approaches effectively (Nyerere, 2021). However, most institutions lack sufficient resources and comprehensive strategies, which impedes progress.

In summary, the findings suggest that although universities have made significant progress toward integrating CBE, considerable work remains. Achieving comprehensive integration requires a coordinated approach addressing teaching practices, institutional support systems, curriculum design, and assessment methods.

4.4 Challenges Facing the Implementation of CBE

Various institutional, structural, and human resource challenges impede the implementation of Competency-Based Education in Kenyan universities. A prominent challenge is inadequate infrastructure, including limited access to workshops, laboratories, and digital technologies. These resources are essential for facilitating experiential and experimental learning, which is central to CBE (RUFORUM, 2015). In the absence of these resources, it is difficult for higher education institutions to fully implement competency-based approaches.

Financial constraints constitute another major challenge to implementation. Substantial funding is required during the transition from 8-4-4 to CBE to support staff training, infrastructure, and curriculum development. However, many universities face tight budgetary constraints, limiting support for these initiatives (World Bank, 2021). This financial limitation affects all aspects of implementation, including capacity building and resource availability.

A further critical challenge is the lack of adequately trained lecturers. Although lecturers are essential for implementing curriculum changes, many have not received sufficient training (Waweru, 2021). This gap in knowledge and skills underscores the need for comprehensive professional development programs.

Resistance to change among administrators and educators further complicates the curriculum shift. Some lecturers are reluctant to abandon traditional teaching methods due to skepticism or unfamiliarity with new approaches (Ng'ang'a, 2022). This resistance can undermine reform efforts and slow the adoption of CBE.

LarLarge class sizes present an additional challenge, preventing educators from providing individualized attention and continuous assessments. Competency-based approaches require close interaction between lecturers and students, which is difficult to achieve in overcrowded classrooms (Mulwa et al., 2023). Collectively, these challenges render the implementation of CBE a complex undertaking.

4.5 Lecturer Preparedness and Institutional Capacity

The success of CBE implementation depends heavily on lecturers' preparedness. Many lecturers in various universities lack the necessary knowledge and skills to deliver competency-based instruction

(Waweru, 2021). This deficiency is primarily attributed to limited exposure to CBE principles during their training and insufficient professional development opportunities.

Lecturers require professional development programs to acquire the skills necessary for CBE. However, these programs are often limited in frequency and scope, leaving many educators unprepared to adopt new teaching methodologies (Mulwa et al., 2023). This situation underscores the need for structured, continuous training opportunities.

Institutional capacity is a crucial factor supporting CBE implementation. Universities require supportive policies, effective leadership, and adequate resources to successfully adopt competency-based approaches (Nyerere, 2021). Institutions lacking these elements may be unable to achieve meaningful integration.

Technology integration is another essential aspect of CBE implementation. Digital tools are vital for teaching and learning as they facilitate personalized and interactive experiences. However, inadequate digital infrastructure and limited access to these technologies remain significant challenges (RUFORUM, 2025).

Collaboration with industry is a critical component in the implementation of Competency-Based Education (CBE). Partnerships between educational institutions and the labor market offer learners practical learning opportunities and help ensure that curricula align with labor market requirements (OECD, 2022). Nevertheless, such collaborations remain underdeveloped in many universities.

4.6 Impact of CBE on Graduate Employability and Skills Acquisition

Research findings indicate that CBE has significant potential to enhance skills acquisition and graduate employability, as well as to promote skill development within higher education institutions. By emphasising practical competencies and real-world application, CBE equips learners with the knowledge and skills required by the labor market (OECD, 2022). In Kenya, this approach aligns with ongoing education reforms aimed at producing job-ready graduates who can contribute to national development objectives.

Skills including teamwork, creativity, collaboration, problem solving, critical thinking, and communication are highly valued by employers in the contemporary workforce and are emphasized within CBE frameworks. The World Bank (2021) highlights that these competencies are essential for navigating dynamic and complex work environments, especially in economies experiencing rapid structural and technological changes. Graduate unemployment in Kenya has been partially attributed to a mismatch between university training and labor market needs. Competency-based education is positioned to address these gaps more effectively.

Additionally, CBE promotes learner-centered approaches that foster self-regulation, autonomy, and lifelong learning. Learners are expected to actively participate in the learning process, with mastery of content prioritized over simple task completion. This approach cultivates continuous skill development, which is essential in a global economy marked by technological advancement, evolving job roles, and frequent disruptions. According to Sangwa (2025), it is now a fundamental requirement for learners to continuously acquire and update skills to ensure career sustainability. Lifelong learning thus emerges as a central outcome of CBE approaches.

Despite these promising advantages, the impact of CBE on graduate employability in Kenya remains in its early stages and lacks extensive empirical substantiation. Studies tracking graduates of CBE programs into the labor market, such as Mulwa et al. (2023), are limited. Consequently, it is challenging to draw definitive conclusions regarding the effectiveness of CBE in improving career progression, employment

outcomes, and income levels.

These findings provide strong support for Human Capital Theory, which posits that investment in education and skills development significantly enhances individual productivity and employability. CBE constitutes a strategic approach to human capital development by emphasizing the acquisition of competencies relevant to the labor market. It prepares graduates for immediate employment as well as for resilience and adaptability in a rapidly changing labor environment. By linking these empirical insights to the mandates of the 2023 Munavu Report and the regulatory framework of the Commission for University Education (CUE), this study addresses previous limitations and contributes across four distinct domains:

· Contribution to Policy: The study offers the Ministry of Education and CUE an evaluative framework for modifying rigid accreditation standards, thereby aligning national quality assurance policies with the practical realities of university-level CBE implementation.

· Contribution to Practice: The study provides university administrators and faculty chairs with actionable strategies to manage internal resistance to change and to update pedagogical tools that support continuous, formative evaluation.

· Contribution to Theory: It enriches the Human Capital and Constructivist learning theories by demonstrating how state-level regulatory bottlenecks (such as CUE mandates) act as direct, empirical moderating variables between institutional inputs and actual human capital outputs.

· Contribution to Knowledge: The study addresses a distinct literature gap by shifting academic focus from basic education (CBC) to provide detailed, context-specific secondary baseline data on the challenges and potential of CBE within the Kenyan university sector.

5.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Summary

The study identified significant differences between CBE and the 8-4-4 education system regarding pedagogical approaches and learning outcomes. Integration of CBE in higher education institutions is ongoing but remains incomplete. The findings revealed several challenges affecting CBE implementation. Institutional capacity and lecturer preparedness emerged as critical factors for successful implementation. Additionally, CBE demonstrated considerable potential in preparing graduates who meet labor market requirements.

5.2 Conclusions

The study concludes that Competency-Based Education is a progressive and relevant educational approach capable of addressing the limitations of the traditional 8-4-4 system. By emphasizing learner-centered pedagogies, practical competence development, and continuous assessment, CBE can strengthen graduate employability and workforce readiness. Although Kenyan universities have made efforts to integrate CBE into curricula and instructional practices, implementation remains uneven due to inadequate infrastructure, insufficient funding, limited lecturer preparedness, and resistance to change. The findings indicate that successful CBE implementation requires strong institutional commitment, supportive policy frameworks, continuous professional development for lecturers, and enhanced collaboration between universities and industry. Addressing these challenges would enable CBE to contribute significantly to national development by producing competent, innovative, and adaptable graduates.

Recommendations

1. Strengthen Policy and Regulatory Support

The Ministry of Education and the Commission for University Education (CUE) should develop comprehensive implementation and monitoring frameworks to support the effective integration of Competency-Based Education across universities.

2. Enhance Lecturer Capacity Development

Universities should invest in ongoing professional development programs to equip lecturers with competency-based pedagogical skills, assessment methods, and learner-centered instructional strategies.

3. Invest in Infrastructure and Learning Resources

Institutions should prioritize investment in laboratories, workshops, digital learning platforms, and other technological infrastructure essential for effective competency-based teaching and assessment.

4. Align Curriculum and Assessment Practices

Universities should review and align curricula and assessment systems with competency-based principles by increasing the use of formative assessments, project-based learning, portfolios, and authentic assessment methods.

5. Strengthen University-Industry Partnerships

Institutions should establish stronger partnerships with industry through internships, industrial attachments, workplace learning, and curriculum co-design to ensure that graduates acquire competencies aligned with labor market demands.

6. Promote Institutional Change Management

University leadership should implement initiatives that address resistance to change and foster a culture supportive of educational innovation and continuous improvement.

7. Strengthen Monitoring, Evaluation and Research

Universities should establish mechanisms to track graduate outcomes and support research on the long-term effects of Competency-Based Education on employability, workplace performance, and national development.

5.4 Suggestion for Further Research

The study identified several areas requiring further investigation, including empirical studies on employability related to CBE and comparative studies across universities to examine implementation levels and student perspectives regarding CBE.

5.5 Contribution to Knowledge

This study advances knowledge by providing a comprehensive analysis of Competency-Based Education integration within Kenya's university sector, an area that has received limited scholarly attention. While most existing literature addresses Competency-Based Curriculum

implementation in basic education, this study extends the discourse to higher education by examining curriculum integration, lecturer preparedness, institutional capacity, implementation challenges, and graduate employability outcomes. The study also enriches the application of Competency-Based Education Theory, Constructivist Learning Theory, and Human Capital Theory in the context of university education. Furthermore, it offers policymakers, university leaders, and education practitioners evidence-based insights to inform policy development, institutional reforms, and future research on higher education transformation in Kenya.

References

1. Becker, G. S. (1964). Human capital: A theoretical and empirical analysis, with special reference to education. University of Chicago Press.
2. Bloom, B. S. (1968). Learning for mastery. Evaluation Comment, 1(2), 1–12.
3. Braun, V., & Clarke, V. (2021). Thematic analysis: A practical guide. SAGE Publications.
4. Commission for University Education. (2014). Universities Regulations. CUE.
5. Dewey, J. (1938). Experience and education. Macmillan.
6. Hida, E., Ben Ouahi, M., Hassouni, T., & Jbari, M. (2025). Competency-based approach in higher education. International Journal of Teaching and Professional Education, 17(2), 224–232.
7. Kenya Institute of Curriculum Development. (2020). Competency-based curriculum framework. KICD.
8. Komba, S. C., & Mwandanji, M. (2020). Competency-based education in African contexts. International Journal of Educational Development, 75, 102–112.
9. Kothari, C. R. (2020). Research methodology: Methods and techniques (4th ed.). New Age International Publishers.
10. Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. PLoS Medicine, 6(7), e1000097. https://doi.org/10.1371/journal.pmed.1000097
11. Mulder, M. (2017). Competence theory and research: A synthesis. In M. Mulder (Ed.), Competence-based vocational and professional education (pp. 1071–1106). Springer.
12. Mulder, M. (2021). Competence-based education and training: Conceptual foundations and implementation. Journal of Vocational Education & Training, 73(2), 1–17.
13. Mulwa, J. K., Mwanza, R. K., & Kasivu, G. M. (2023). Implementation of competency-based curriculum in higher education institutions in Kenya. In Competency-Based Curriculum and E-Learning in Higher Education (pp. 232–248). IGI Global.
14. Ng'ang'a, L. (2022). Transition to competency-based education in Kenya. African Journal of Education, 89(10), 55-70
15. Nyerere, J. (2020). Reforms in education and training for skills development in Kenya. Journal of Education and Practice, 11(5), 1–10.
16. Nyerere, J. (2021). Reforms in education in East Africa. Journal of African Education Studies, 5(2), 88–102.
17. OECD. (2022). Skills for Jobs and Lifelong Learning. OECD Publishing.
18. Organization for Economic Co-operation and Development. (2022). Skills for jobs database. OECD Publishing.

19. Petticrew, M., & Roberts, H. (2006). Systematic reviews in the social sciences: A practical guide. Blackwell Publishing.
20. Piaget, J. (1972). The psychology of the child. Basic Books.
21. Republic of Kenya. (2012a). Report of the Task Force on the Re-alignment of the Education Sector to the Constitution of Kenya 2010 (Odhiambo Report)—Ministry of Education.
22. Republic of Kenya. (2012b). The Universities Act, No. 42 of 2012. Government Printer.
23. Republic of Kenya. (2019). Sessional Paper No. 1 of 2019 on policy framework for reforming education and training for sustainable development in Kenya. Government Printer.
24. Republic of Kenya. (2023). Report of the Presidential Working Party on Education Reform: Transforming education, training and research for sustainable development in Kenya (Munavu Report). Government Printer.
25. RUFORUM. (2015). Higher education and agricultural development in Africa: Reflections on action. Regional Universities Forum for Capacity Building in Agriculture.
26. RUFORUM. (2023). About RUFORUM. Regional Universities Forum for Capacity Building in Agriculture. https://www.ruforum.org
27. RUFORUM. (2025). Status of Competency-Based Education in African Higher Education and Reflections on Action.
28. Sangwa, S. (2025). Competency-Based Education Frameworks. Open Journal of Education.
29. Sangwa, S. (2025). Global convergence towards competency-based Education for the knowledge economy. Open Journal of Transformative Education & Lifelong Learning, 1(2). https://doi.org/10.65655/OCP.0074
30. Schultz, T. W. (1961). Investment in human capital. The American Economic Review, 51(1), 117.
31. Sifuna, D. N., & Otiende, J. E. (2006). History of Education (An Introduction). Nairobi University Press.
32. Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. Journal of Business Research, 104, 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039
33. UNESCO. (2021). Reimagining our futures together: A new social contract for education. UNESCO Publishing.
34. United Nations Educational, Scientific and Cultural Organization. (2021). Reimagining our futures together: A new social contract for education. UNESCO Publishing.
35. United Nations Educational, Scientific and Cultural Organization. (2021). Reimagining our futures together: A new social contract for education. UNESCO Publishing.
36. Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Harvard University Press.
37. Wambui, T. (2020). Implementation of Competency-Based Curriculum in Kenya. Challenges and Prospects. International Journal of Education and Research, 8(6), 45–58.
38. Waweru, P. (2021). Pedagogical Practices in the Kenyan Education System. Journal of Education and Practice, 12(4), 34–45.
39. Waweru, P. N., & Orodho, J. A. (2021). Competency-based curriculum implementation in Kenya: Challenges and prospects. Journal of Education and Practice, 12(3), 45–57.
40. World Bank. (2019). Kenya: Skills for a Competitive Economy. World Bank Publications.

41. World Bank. (2020). The future of work in Africa: Harnessing the potential of digital technologies for all. World Bank.
42. World Bank. (2020). World Development Report 2020: Trading for Development in the Age of Global Value Chains. World Bank Publications.
43. World Bank. (2021). Kenya: Skills Development for Employment. World Bank Publications.