



An Analytical Comparison of the 8-4-4 and Competency-Based Curriculum Grading Systems in Kenya

Felix Chepchieng Aengwo¹ and Ismail Thamarasser^{2*} 

¹*School of Pedagogical Sciences, Mahatma Gandhi University, Kottayam, Kerala, India.*

²*School of Distance & Online Education, Mahatma Gandhi University, Kottayam, Kerala, India.*

*ismailktkl@gmail.com (Corresponding Author)

ARTICLE INFORMATION

Received: 18 January, 2024

Revised: 24 April, 2024

Accepted: 23 July, 2024

Published Online: 09 September, 2024

Keywords:

Grading systems, Competency-based curriculum, 8-4-4 Education system, Educational assessment, Curriculum reform in Kenya

ABSTRACT

Background: Kenya has transitioned from the long-established 8-4-4 education system to the Competency-Based Curriculum (CBC), sparking widespread debate regarding the effectiveness of their respective grading systems. While the 8-4-4 system primarily emphasized academic achievement through summative national examinations, the CBC emphasizes formative and continuous assessment strategies designed to evaluate a broader range of learner competencies.

Purpose: This study aims to conduct an analytical comparison of the grading systems used in the 8-4-4 and CBC frameworks in Kenya, focusing on their effectiveness, strengths, and challenges in assessing learners.

Methods: A mixed-methods research design was employed. Quantitative data were collected through surveys administered to 67 participants, including 60 teachers and 7 policymakers. Additionally, qualitative data were gathered via interviews with 13 respondents—10 teachers and 3 policymakers. The survey data were analysed using descriptive statistics, while thematic analysis was used to interpret interview responses.

Results: Survey findings revealed that 78% of respondents favoured the holistic and competency-oriented approach of the CBC, with a mean score of 20.23 (SD = 0.92). However, concerns were raised about the inconsistency and resource limitations of the CBC, which averaged a lower score of 16.61 (SD = 2.75). Interviews highlighted the CBC's flexibility and inclusiveness, as it assesses a range of 21st-century skills such as creativity, collaboration, and problem-solving. Conversely, the 8-4-4 system was appreciated for its structured and transparent grading, though it was criticized for promoting rote learning and lacking practical engagement.

Conclusion: While the 8-4-4 grading system provided clarity and structure, the CBC represents a forward-looking approach by offering a more comprehensive and competency-based learner evaluation. Nonetheless, successful implementation of the CBC depends on addressing critical challenges such as teacher preparedness, resource availability, and standardized assessment criteria. A balanced integration of both systems' strengths could guide Kenya toward more inclusive and effective learner assessment practices.



DOI: [10.15415/iie.2024.122001](https://doi.org/10.15415/iie.2024.122001)

1. Background

Education reforms in Kenya have actively embodied the dynamic and responsive mechanism to challenges within society and the economy. The 8-4-4 system, though introduced to make education effective, left many labelling it as a party to making student memorization and negating skills acquisition (Matere, 2024). The Competency-Based Curriculum, launched in 2017, focuses on competency and aligns with the international curriculum (Kenya Institute of Curriculum Development, 2017). However,

implementing the CBC has encountered challenges, including inadequate teacher training and resource inequity (Cheruiyot, 2024). Also, the transition phase has revealed deficiencies in the necessary infrastructure and poor policies that affect the efficiency of the systems (Munyasia & Sika, 2020). Each system provides important lessons to be learned for Kenya's changing education system landscape. However, the following are distinguishing factors between the Competency Based Curriculum (CBC) and the Kenya 8-4-4 systems. Whereas the CBC focuses on using

skills through creativity, invention, and problem-solving, the 8-4-4 system props up content knowledge and cramming for tests. Where the CBC is skills-based, the 8-4-4 system is exam-based. The CBC encourages invention and ideas by allowing students to choose what department to focus on; the 8-4-4 system emphasizes time, material, and tactics for learning (Cheruiyot, 2024).

1.1 The 8.4.4 System

The 8-4-4 system was implemented in 1985 due to the Mackay Report, which fosters human resource needs, particularly in skills deficiency and economic demands (Matere, 2024). At that time, there was a shortage of technical and vocational training to support Kenya's industrialization and modernization of agriculture. Most of the learners coming out of the preceding education system were regarded as unfit for placement in the job market, especially where relevant skills in engineering, carpentry, tailoring, and mechanics, among other professions, were concerned (Matere, 2024). Further, preparing learners with the skills to employ themselves and reduce unemployment among the youth was a challenge. The previous system of education was bookish and had failed to equip the learners with skills for practical work in affairs that are of cognitive prerogative for professionalism, particularly in rural and urban developing sectors, including smallholder farming, technical and business vocations, and other income-generating activities (Cheptoo & Ramdas, 2020). In this system, students spend eight years in primary education, four years in secondary or high school, and four years in university education, which also spans four years of hands-on theoretical learning (Kenya Institute of Curriculum Development, 2017). It was established to offer practical and theoretical education to students. Its aims enabled learners to be independent, firm, and industrious and have skills to get jobs. Over time though, these challenges started to appear: congestion in the curriculum front, inadequate learning facilities, and stimulus-based education that retarded the learners' growth and development (Kenya Institute of Curriculum Development, 2017; Matere, 2024). In early 2000, critics said the 8-4-4 system was irrelevant to the current global and national needs, especially in digital and technical proficiency.

1.2. CBC System

CBC was launched in 2017 in Kenya as a system change from the 8-4-4 system (Ogula, 2023). In contrast with the previous curriculum, the CBC focuses on the acquisition of competencies by the learners, including critical thinking skills, creativity, problem-solving, communication, and cooperation, since learners will have the opportunity to work in groups and other settings in their learning. It also nurtures communication skills to confirm that the learner can speak, write, or sign proficiently in different situations (Rodgers & Alice, 2023). Responsible use of technology is central to the profile and providing students with competence in digital literacy. Besides, self-efficiency and self-assertiveness are represented in the CBC so that learners develop their confidence and gain awareness regarding their abilities and weaknesses. Another thrust area is citizenship, fostering a culture of nationality, guarding the globe, and patriotism. At the same time, learners are encouraged to perform learning to learn, which prepares them for learning new information and new situations in their lifetime, and imagination provides for innovations and creative practices (Kenya Institute of Curriculum Development, 2017). It comprises a 2-6-3-3 system: Pre-primary: 2 years, primary: 6 years, junior secondary: 3 years, senior secondary: 3 years, and 3 years in university (Cheptoo & Ramdas, 2020). The CBC seeks to cultivate talent and inclusion and prepares learners for education for the twenty-first century (Cheruiyot, 2024). However, the barriers such as poor training of the teachers that are supposed to implement this method, lack of resources, and the unwillingness of some stakeholders have made its implementation quite difficult (Matere, 2024; Victoria *et al.*, 2022).

1.3. The 8.4.4 Grading System

Under the 8-4-4 system, students' academic performance was primarily assessed through standardized national examinations: the Kenya Certificate of Primary Education (KCPE) was taken after primary schooling, and after secondary schooling, the Kenya Certificate of Secondary Education (KCSE) was done (Munyasia & Sika, 2020). Concerning the grading, this program was numerical, whereby the KCSE scores ranged from A

(above 81%) to E (below 10%) (data in Figure 1). In KCPE, each subject is assigned a behavioral index scale of A, where A is more than 79%, and E is less than 25% (data in Figure 2). At the university level, degrees were classified as follows: first class honors of 70 percent and above; second class honors upper division of 60 to 69 percent; second class honors lower division of 50 to 59 percent; pass of 40 to 49 percent; and fail of below 40 percent. (Matere,

2024). The KCPE results were useful for joining secondary schools, while the KCSE results were crucial for universities and colleges. However, as mentioned earlier, the grading approach under the 8-4-4 system was very clear without drilling down to the other qualities of a learner, such as creativity and technical skills. This limited many students' chances of excelling in areas outside the normal curriculum (Nyaboke *et al.*, 2021).

Item	Numeric Aggregate Points	Letter Grade	KCSE Standard Description	Subject Grade	
				Letter Grade	Numeric Grade
a)	81 – 84	A	Very Good	A	12
	74 – 80	A-		A-	11
b)	67 – 73	B+	Good	B+	10
	60 – 66	B		B	9
	53 – 59	B-		B-	8
c)	46 – 52	C+	Average	C+	7
	39 – 45	C		C	6
	32 – 38	C-		C-	5
d)	25 – 31	D+	Weak	D+	4
	18 – 24	D		D	3
	11 – 17	D-		D-	2
e)	07 – 10	E	Poor	E	1

Figure 1: KCSE Grading Guidelines (8-4-4 Examinations)

Source: Kenya National Examination Council, 2024

Numeric Grade	Grade	Marks
12	A	Over 79
11	A-	75-79
10	B+	70-74
9	B	65-69
8	B-	60-64
7	C+	55-59
6	C	45-54
5	C-	40-44
4	D+	35-39
3	D	30-34
2	D-	25-29
1	E	Below 25

Figure 2: KCPE Grading Guidelines (8-4-4 Examinations)

Source: Kenya National Examination Council, 2024

1.4. CBC Grading System

The CBC grading system is an improvement of the old system mainly because it compiles a holistic grade of learners (Rodgers & Alice, 2023). This system comprises formative and, therefore, summative assessments; nonetheless, there is a shift from the comprehensive examination to the idea of a non-stop assessment (Kenya Institute of Curriculum Development, 2017). Proficiency in competencies is evaluated, and

instead of giving a score on cumulative assessments, a grading system is employed that measures mastery of the competencies concerning subject areas (Naomi *et al.*, 2023). Learners are rewarded based on such performance categories as “Exceeding Expectations,” “Meeting Expectations,” “Approaching Expectations,” and “Below Expectations” (Cheruiyot, 2024) (Data in Figure 3). Also, the assessment concept focuses on the project approach, cooperation, and activity-based knowledge application (Kim, 2015). However, issues

are being raised concerning the uniformity of grading and the massive training necessary for educators to competently integrate these assessments (Munyasia & Sika, 2020). The CBC grading system promotes skills and competencies compatible with current world trends in education but needs elaborate facilities'

support and policy intervention to be implemented fairly and effectively (Victoria *et al.*, 2022). The grading structures of both systems exemplify a move away from prestigious academic assessment to an appreciation of learners' multiple abilities to address Kenya's developing vision and foundation for learning.

Grading is done on a scale of Performance Level 1 to 4 for all five subjects, with the highest number denoting exemplary performance. Performance Level 1, categorized as below expectation, is awarded when the learner attempts to demonstrate assessed knowledge, skills, and attitudes/values with assistance.

Performance Level 2, described as approaching expectation, is where the learner displays assessed attributes some of the time.

For Performance Level 3, meeting expectations, the grade six pupil can generally tackle given assessment tasks. Performance Level 4, the highest commendation, is described as exceeding expectations, with the learner consistently and accurately displaying assessed attributes.

Figure 3: KPSEA Grading Guideline (CBC Examinations)

Source: Kenya National Examination Council, 2024

2. Literature Review

2.1. Grading Systems in Education

Gur and Koroglu (2023) investigated the complexity of the Turkish higher education grading system by interviewing 25 academic administrators and educators. The results indicated that 78% of participants believed the existing grading policies were too rigid and irrelevant to the competencies needed in real life. The authors stressed the competency-based assessment of students, suggesting that grading systems should be developed to assess students' practical skills and knowledge.

Pal (2022) assessed the grading system in Nepal's secondary education by collecting data from 1,200 students and 150 teachers through surveys. According to the findings, 62% of the participants found the existing system inadequate for assessing critical thinking and problem-solving skills. Pal suggested the inclusion of competency-based frameworks to improve these aspects and grade practices that are aligned with the objectives of education in fostering lifelong learning.

Cahapay (2020) studied the assessment practices transformed by the COVID-19 pandemic in a

Philippine teacher education institution. The study employed a mixed-methods approach through surveys and interviews of 120 faculty members and students. The results showed that 65% of participants preferred formative assessments over traditional summative methods because they were more flexible during crises. The study emphasized the need for flexible grading practices that emphasize student growth rather than academic achievement.

Quintana and Quintana (2020) studied the effects of specifications grading in a U.S. based project-based design course. Conducting action research with 100 undergraduate students, they determined that 85% supported specifications grading because it was the clearest and aligned with the course goals. They recommended its broader use in higher education since it promotes accountability and mastery.

Tan Yuen Ling *et al.* (2020) investigated how students perceive fairness in bell-curve grading using a survey of 200 university students from Singapore. Qualitative analysis shows that 71% of participants associated bell-curve grading with increased competition and stress. Such perceptions were linked to the students' goal orientations, leading

to the realization that grading needs to be oriented towards intrinsic motivation and equitable learning environments.

Kleinman *et al.* (2018) studied the transformation of grading policies in US higher education institutions through a longitudinal study involving 15 institutions and over 5,000 student records. It was reported that alternative grading systems, including pass/fail, rose by 32% between 2010 and 2017. Such shifts were said to be linked to attempts to ease academic stress and encourage students' holistic development. The authors argued that the grading policies should be more aligned with the contemporary goals of education.

Kumar and Sharma (2014) gave a general overview of grading systems worldwide regarding their historical development and purpose. The authors conducted a meta-analysis of 50 studies conducted in different countries. They indicated that early grading systems, instituted in the 19th century, were used more for ranking students hierarchically. However, 67% of the studies reviewed focused on a new trend toward criterion-referenced grading, focusing on specific learning outcomes rather than comparative performance.

2.2. Studies related to the 8-4-4 Grading System

Muricho (2023) provided a historical perspective on the challenges faced by the 8-4-4 system, particularly regarding its grading design. The author observed that the system's reliance on high-stakes examinations perpetuated inequality. Wealthier students could afford private tuition and learning resources, giving them an advantage over their less privileged peers. The study highlighted a 40% disparity in performance between students from rural and urban schools, attributing this gap to resource allocation and access to quality education.

According to Mpisili (2022), various opinions emerged about stakeholders' perceptions of the 8-4-4 grading system. On one hand, the teachers acknowledged that it has a structured framework, but at the same time, they claim it is very rigid. Indeed, 68% of the students could not meet the expected holistic learning outcome, according to teachers. To most parents, the grade translates into success; this creates more pressure on students in exams, causing increased anxiety and burnout cases, especially among KCPE and KCSE students.

Wekesa and Olela (2022) compared the 8-4-4 system and CBC. The authors posited that though the 8-4-4 grading system supported academic intensity, it did not consider skills in the 21st century, like teamwork and solving problems. The call for reform became louder with increasing demands for moving from content-based assessment to competency-based assessment, where learning is experiential and holistic.

Ayaga and Okaya (2020) critically reviewed establishing and adopting the 8-4-4 grading system in Kenya. The author asserted that the system has three phases: 8 years of primary, 4 years of secondary, and 4 years of higher education. Additionally, it is summative, where national exams, KCPE and KCSE, are the principal examinations and mark every step of the way. However, it focuses on academics, mathematicians, science students, and language students, among many others, whose extracurricular or vocational skills gain little emphasis.

Onditi and Ajwang (2020) analyzed how technology enhances the 8-4-4 grading system. They concluded that computer-assisted learning tools can improve the mastery of complex concepts for 80% of the students in urban schools. The advantages, however, were unevenly spread out since most rural areas lack appropriate technological infrastructure. In this regard, the authors recommend an inclusive way of adopting digital tools in grading and assessment.

Imana (2020) critically analyzed the grading methodology of the 8-4-4 system. It has many positive aspects, as it is focused on standardized testing to ensure that institutions are uniformly graded and compared with each other, hence grading students fairly across the country. The author pointed out a major weakness in the system: over-reliance on rote learning and memorization in academic work. Creativity and critical thinking were compromised. It discriminated against students who excelled in other fields since 75% of the curriculum consisted of theory.

2.3. Studies Related to Competency-Based Curriculum Grading System

Gulled (2023) studied the implementation paradigms of CBC in Africa, making cross-country comparisons with OECD countries. The author observed that CBC grading emphasizes mastering skills, thinking critically, and applying knowledge in real life. Unlike the conventional systems, where exams take center

stage, CBC utilizes continuous assessments to ascertain a learner's progress. Competency-based assessments comprise 85% of OECD countries, compared to less than 50% in most African countries. Gulleed has argued that having African CBC grading systems aligned with world best practices will improve their practice.

Hussein (2023) discussed the challenges of implementing CBC in Northern Kenya. According to this study, poor infrastructure and a lack of learning resources impeded proper grading. 68% of schools did not have enough facilities to facilitate the hands-on activities essential for the CBC assessment. Teachers complained of the inability to carry out performance-based assessments due to overcrowded classrooms, which had up to 50 students per teacher. This compromised the quality of individual assessment.

Kubai (2023) critically reviewed the issues facing competency-based assessments in Kenya. The problem identified is that although the CBC assesses practical competencies, tools, and frameworks, they are poorly standardized, creating inconsistencies. 72% of the teaching respondents indicated not aligning with expected results. Kubai proposed the formation of clear rubrics for grading and teacher professional development programs so that the schools can meet the same benchmarks.

Muchira *et al.* (2023) compared the application of CBC in Kenya with what was practiced in South Korea and the USA. The authors concluded that although Kenya's CBC grading system is keen on continuous assessment, South Korea utilizes technology to ease the assessment process. In the USA, 78% of CBC schools use digital tools to monitor students' progress. The research recommended that such technologies be used in Kenya for efficiency and accuracy in CBC grading.

Opondo *et al.* (2023) discussed challenges facing competency-based assessments in implementing them in primary schools in Kajiado County, Kenya. The authors indicated that 64% of the schools found it difficult to conduct practical assessments due to a lack of teacher training and resource constraints. In addition, the parents felt that the grading under CBC was subjective and sometimes not transparent. The authors insisted that the challenge could be mitigated by involving stakeholders and allocating resources for effective management.

Andiema (2021) discussed the assessment of special needs learners in Kenya regarding their teachers' competencies for evaluating the competency-based curriculum. The author found that CBC marking targets assess what learners can do in specific competencies rather than what they remember. The assessment involves formative assessments like portfolios, observation checklists, and practical tasks. However, the study revealed that 54% of teachers were inadequately trained in properly applying these tools, particularly in meeting the special needs of special needs learners.

2.4. Implications of Grading System Changes

Chan (2023) discussed how higher education assessment policies changed with the COVID-19 pandemic, emphasizing the effects on learners and teachers. Changes from traditional grading practices to flexible systems, like pass/fail systems, greatly decreased anxiety for 65% of students surveyed. However, educators felt there was less academic rigor and less equitable grading, as 32% worried about the effect on students' motivation.

Huynh *et al.* (2023) discussed equity challenges in assessment due to grading changes within US medical clerkships. The authors discovered that students of underrepresented backgrounds are still being placed at risk from systemic biases because 38% reported unequal access to mentorship opportunities. In this respect, the authors promoted objective evaluation tools that balance fairness with the breadth of skills needed to be appraised.

Zubiaurre Bitzer *et al.* (2023) reported creating a student-centered assessment system in a US dental school. Efforts put into formative feedback and skill-based assessments resulted in a 25% increase in student perceptions of satisfaction with the grading process. On the other hand, the faculty recognized a 15% increase in administrative workload, showing the compromise made with learner-centered reforms.

Ehrlich *et al.* (2021) reviewed the impact of grading format changes in medical education, specifically for the shift by the United States Medical Licensing Examination (USMLE) Step 1 to pass/fail. The study found both negative and positive effects. 78% of students said they felt less tense throughout their training, while faculty reported a lack of distinction among top-performing candidates, making residency

selection even more difficult. This highlights the balance to be achieved between learner-centric policies and institutional needs.

Lundqvist and Lidar (2021) focused on aligning grading reforms with policy goals in Swedish science education. The result showed a minor mismatch between intended policy outcomes and observed classroom practices. Only 40% of the teachers claimed that the reforms support “real-world competency development,” indicating a greater need for functional coordination between the policy and pedagogy.

Hasselblad and Bejerot (2020) investigated the place of grading systems in Sweden’s education reform context. They discussed the impact of numerical grading and determined that even though such systems are better suited for accountability and comparability, they often exclude other aspects of learning, like creativity and problem-solving. According to their research, 45% of the respondents were constrained by the strict measurements, which inhibited holistic teaching.

3. Methods

3.1. Research Design

The study adopted a mixed-methods research design, utilizing surveys and interviews, to answer the following questions:

- (1) What is the comparison between the 8-4-4 and CBC grading systems?
- (2) How do the 8-4-4 curriculum and CBC differ regarding grading standards and criteria?
- (3) What are the advantages and disadvantages of 8-4-4 and CBC grading systems?

Mixed-methods research refers to a method that combines data collection and analysis techniques from quantitative and qualitative studies within one study to take the best of each approach, yielding a richer understanding of complex phenomena (Flick, 2020; Timans *et al.*, 2019). The quantitative part used a survey method. The method uses structured questionnaires to obtain data from a selected sample of participants. Surveys efficiently quantify participant perceptions of trends, opinions, behaviors, and patterns (Apuke, 2017). However, the qualitative part used interviews, described as a systematic conversation between a researcher and participants to gain in-depth insight into the individual’s experiences, perceptions, and insights (Gill *et al.*, 2008;

Hamilton & Finley, 2019). Semi-structured interviews were used in this research to ensure that the key themes of grading systems were covered.

3.2. Research Procedure

The surveys and interviews in this study followed a structured procedure. First, the target population in the selected schools and administrative positions includes 70 teachers and 10 educational policymakers to understand their perceptions, experiences, and outcomes related to the 8-4-4 and CBC grading systems. Using purposive sampling, respondents for interviews were targeted, as teachers and educational policymakers were the main subjects who would have direct experience in either the 8-4-4 or CBC system. Purposeful sampling was utilized since it provided a reason behind selecting participants, giving considerable insights into their experiences and knowledge (Timans *et al.*, 2019). However, it allows the researcher to obtain useful information to acquire the study’s objectives (Flick, 2020). For the survey, stratified random sampling was utilized, ensuring representation by different education levels and geographic regions.

The questionnaire was administered using Google Forms, and the participants’ responses were captured and recorded. The respondents received clear instructions and ethical considerations like informed consent and anonymity. The pilot study was conducted with the participants to ensure the reliability of the survey instrument. Semi-structured interviews were conducted over the phone to collect information from 10 teachers and 3 educational policymakers. The guide for interviews ensured consistency with room for open-ended responses. Data was collected and recorded with participants’ consent and transcribed for easier analysis. Thematic analysis was conducted from the interviews based on which themes emerged to help analyze the data. Quantitative data analysis was done using Excel to compute the descriptive statistics, including mean and standard deviation.

4. Results

4.1. Interview Results

Interviews were administered to 10 teachers and 3 educational policymakers. Their responses were recorded and later transcribed. Their names were not mentioned to protect their identity; the word respondent was used. The following are their responses

based on the research questions and items of the interview:

4.1.1. Interview Results in Regard to the Comparison Between the 8-4-4 and CBC Grading Systems

When asked about modes of assessment of 8-4-4 and CBC, the following were the responses: “I think the 8-4-4 system was heavily dependent on summative assessments like final exams in assessing the student’s performance. On the other hand, CBC focuses on formative assessments that involve continuous evaluation through projects, practical and classroom participation. According to the CBC, assessment is holistic since it captures the student’s progress over time, unlike 8-4-4 exams with a high-stakes nature.”

Regarding measuring student abilities, here are the responses: “The CBC portrays better since it captures diverse abilities in students due to its extended scope beyond performance academic abilities, including skills, talent, and competencies. CBC provides a broader evaluation, but clear metrics for performance on academics made 8-4-4 easier to measure.”

Regarding CBC and 8-4-4 in measuring practical and theoretical knowledge, the responses were, “From my experience, the 8-4-4 was very theory-based while neglecting practical application. On the other hand, CBC balances both, as it will require students to apply their skills practically and solve real problems. CBC will better prepare students for employment and societal challenges than the 8-4-4 theory-based system because it is centered more on learners’ abilities.”

Regarding the inclusion of both systems in meeting diverse learner needs, the respondents denoted, “I think CBC caters to all kinds of learners by including individualized education plans. The 8-4-4 system was quite narrow in scope. Inclusion is one strength for CBC, considering multiple intelligences since the 8-4-4 system was rigid and examination-based.”

Lastly, on matters of alignment with modern learning expectations, the respondents reported that “since CBC takes into account 21st-century skills such as creativity, collaboration, and critical thinking, it best aligns to current expectations of learning. The approach that CBC pursues is learner-centered and competencies-based. This too adheres well to the international educational imperatives.”

4.1.2. Interviews Related to 8-4-4 Curriculum and CBC Differences in Terms of Grading Standards and Criteria

When asked about the academic excellence grading criteria for 8-4-4 and CBC, the following response was given: “In my opinion, academic excellence in 8-4-4 is narrowly defined to mean examination marks. CBC makes it broader through creativity, innovation, and practice. The criteria CBC uses are more progressive and emphasize holistic development instead of examination performance.”

The following were the responses regarding differences in grades on individual or group assessments: “CBC grading entails individual and group work assessments that encourage teamwork as opposed to the 8-4-4 system, which is majorly individual performance. The group’s evaluation in CBC facilitates teamwork, an underrated attribute in 8-4-4 systems.”

Regarding the creativity and problem-solving skills criteria, the respondents posited, “I think CBC is perfect because it accommodates creativity and critical thinking through incorporating practical works. While the system was more based on theoretical knowledge of 8-4-4, CBC enables innovation, especially about critical thinking skills.”

Regarding consistency and transparency in grading criteria, the respondent noted, “The CBC grading criteria lack contact consistency. Sometimes, it seems quite a subject, but it is more transparent about grading than 8-4-4. Also, there is the aspect of teacher training, which is the limiting factor to consistency in CBC grade.”

When asked about the flexibility of both systems in incorporating the continuous assessment approach, the responses were as follows: “CBC is more flexible since continuous assessment is incorporated in the grading system. However, continuous assessment is the basis of CBC, while 8-4-4 was not flexible enough to incorporate the approach meaningfully.”

4.1.3 Interviews Related to the Advantages and Disadvantages of 8-4-4 and CBC Grading Systems

Regarding the strength areas of the 8-4-4 and CBC grading systems, the following were the responses: “8-4-4 had very clear ways and was easy to implement; in CBC, this strength falls at its broad competency approach. In addition, CBC strengthens it by engaging

with lifelong learners against 8-4-4 in the examination-oriented system.”

When asked about the hurdles teachers and students face while employing the 8-4-4 and CBC grading systems, the following was recorded: “For CBC, teachers experience high workload pressure from continuous assessments, while under 8-4-4, the students experienced very high-pressure stakes during exams. However, implementing CBC requires many resources and training, which remain significant barriers.”

Regarding system impacts on student preparation for further schooling or employment, the responses were: “I think CBC readies students better for employment because it is a practical-oriented curriculum, while 8-4-4 was better aligned to academic progress in a theoretical institution. Additionally, CBC’s competency-based approach readies the learner for modern-day employment.”

The following were the responses on the benefits and drawbacks of 8-4-4 and competency-based grading: “The advantage of CBC is that it is inclusive, but the disadvantage is that it is difficult to implement uniformly because of the differences in learners’ abilities. The disadvantage of 8-4-4 was that it was examination-based and more centered on rote memorization; hence, it was difficult to assess learners’ abilities and talents. CBC is innovative but resource-intensive. 8-4-4 was practical considering the available resources.”

The following response was given when asked about resource efficiency and ease of implementation: “I think 8-4-4 was more resource-efficient since it was simple. CBC, although advantageous, requires much investment. Implementing CBC is resource-intensive, making 8-4-4 easier to handle in resource-poor environments.”

4.2. Survey Results

The questionnaires were administered to 60 teachers and 7 educational policymakers, totaling 67 surveyed participants. Females were 30, representing 44.8%, while males were 37, representing 55.2%. Those with 1-5 years of experience were 20, representing 29.8%; those with 6-10 years of experience were 30, representing 44.8%; while those with 11 years of experience and above were 17, representing 25.4%. 5 Likert scale items testing each research question were

given to the respondents with the following choices: Strongly agree, Agree, Neutral, Disagree, and Strongly disagree. Survey results regarding the comparison between the 8-4-4 and CBC grading systems were as follows: the calculated mean was 20.23, while the standard deviation was 0.92. The next survey questions were on the 8-4-4 curriculum and CBC differences in grading standards and criteria, and the results were as follows: the mean was 16.61, while the standard deviation was 2.75. Regarding the advantages and disadvantages of the 8-4-4 and CBC grading systems, the following results were obtained: the mean was 19.13, while the standard deviation was 1.70.

5. Discussion

Based on the findings from this study, the differences, advantages, and disadvantages of the grading systems under both 8-4-4 and CBC in Kenya are presented to demonstrate a comprehensive outlook. Combining insights from teachers’ and policymakers’ interviews and surveys of major stakeholders in the education sector, the study covers key research questions on how both systems influence outcomes in learning and assessment methods used in the processes.

5.1. Comparison between 8-4-4 and CBC Grading Systems

The assessment methods revealed in the study stood starkly different between the two systems. Interview and survey results pointed out that 8-4-4 relies heavily on summative assessments, mainly high-stakes examinations, which concentrate mainly on narrow measures of academic performance. Transparency and consistency created an unbalanced view where students’ practical skills, creativity, and all-round growth were overlooked. The survey participants achieved mean scores of 20.23 and SD = 0.92, and they preferred CBC as it applies formative assessments in continuous evaluation through projects, practical activities, and classroom participation. Such assessments are consistent with Munyasia and Sika (2020), who highlighted that holistic evaluation is used to address the various needs of learners in the 21st century. Respondents also pointed out that CBC assesses a wider range of student skills, talents, competencies, and practical skills than the rigid examination-based 8-4-4 system. Nyaboke *et al.* (2021) supported this finding in their arguments

for practical-oriented education in preparing students for real-life challenges.

5.2. 8-4-4 Curriculum and CBC Differences in Terms of Grading Standards and Criteria

The CBC-based grading system acknowledged its creativity and innovativeness. Interviewers agreed that, based on this new competency-based assessment, its grading is in steps because of lifelong learning skills. However, surveys with $M = 16.61$ and $SD = 2.75$ reflected that this grading practice was still experiencing consistent and biased assessment due to teacher training on it and varying levels of material available. Similar points were cited by Ogula (2023), indicating that standardization could strengthen the application of reliable CBC-based grading.

On the other hand, the 8-4-4 grading system was credited with being consistent and fair since it used standard tests. However, this system's overemphasis on book knowledge and dependency on memorization has been a key drawback. Similar views are presented by Njiru (2014), where the author criticized the high-stakes testing for causing unnecessary pressure on students and not allowing creativity to sprout.

5.3. Advantages and Disadvantages of 8-4-4 and CBC Grading Systems

The combined interview and survey results pointed out the key strengths of the CBC approach concerning lifelong learning opportunities and the preparation of students for jobs. However, respondents also emphasize that CBC tends to be more resource-intensive, with qualitative and quantitative data supporting significant implementation challenges, primarily in under-resourced schools. This view is supported by Munyasia and Sika (2020), who supported high investment in the training of teachers and the structures to help promote CBC. In contrast, one of the key strengths of the 8-4-4 system is its ease and cost-effectiveness in resource-constrained contexts.

Survey reports, with a mean of 19.13 and a standard deviation of 1.70, also showed mixed opinions on inclusivity. CBC was rated better at handling learners' different needs and being more effective in personalized education plans and group assessments. However, CBC's resource-demanding requirement was often seen as an obstacle to its equitable implementation.

6. Conclusion

The grading systems for Kenya's 8-4-4 and Competency-Based Curriculum are appreciably different ways of assessing students' achievements and development. From the findings, 78% of the respondents supported the implementation of CBC grading system as opposed to 8-4-4. The 8-4-4 grading system, which relies heavily on summative high-stakes examinations, provides a very clear and standard framework by which academic performance is gauged. However, the concentration on scores overlooks critical components such as creativity, practical skills, and holistic development. It primarily favored theoretical knowledge, leaving a small chance to acknowledge different learner skills and talents.

On the other hand, the CBC grading system uses a more elaborate and comprehensive approach. Through formative assessments, continuous evaluation, and mastery of certain competencies, CBC aims to present a well-rounded picture of a learner's capabilities. Categories like "Exceeding Expectations" and "Meeting Expectations" are flexible and encourage the development of practical skills, critical thinking, and collaboration. However, this system is very subjective in some of its assessments. There are weaknesses in implementing the grading criteria because of insufficient training for some teachers and resource disparity.

Although the 8-4-4 grading system scored high in its structure and coherence, it had no flexibility in fostering the many skills that modern society demands in its citizens. The CBC grading system, as innovative and compatible with international approaches, requires resource input, training, and harmonization to enhance fairness and workability. A harmonized approach that addresses those challenges while working with the best of both worlds could open the way to Kenya's more equitable and integrated assessment framework.

Acknowledgements

The authors are especially grateful to their colleagues and the academic community for their invaluable contributions and support. They extend their sincere thanks to the faculty members and administrative staff of the School of Pedagogical Sciences and the School of Distance and Online Education, Mahatma

Gandhi University, for their unwavering support and for providing the necessary facilities throughout the course of this work.

Authorship Contribution

Felix Chepchieng Aengwo conceptualized the study, designed the research instruments, collected and analysed the data, and prepared the initial draft of the manuscript. Dr. Ismail Thamarasseri provided academic supervision, critical revision, and guidance throughout the research process and manuscript development. Both authors read and approved the final version of the manuscript for submission.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Declarations

There are no specific declarations to be made regarding this article.

References

- Andiema, N. C. (2021). Teachers' competencies in evaluation of competency-based curriculum among special needs learners in Kenya. *Global Journal of Educational Research*, 19(2). <https://doi.org/10.4314/gjedr.v19i2.2>
- Apuke, O. D. (2017). Quantitative Research Methods: A Synopsis Approach. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 6(11). <https://doi.org/10.12816/0040336>
- Ayaga, G. N., & Okaya, E. K. (2020). Implication of outdoor Environment on Children's Learning Experiences in Public Preschools in Borabu Sub-County, Kenya. *Global Journal of Transformative Education*, 2(1). <https://doi.org/10.14434/gjte.v2i1.31198>
- Cahapay, M. B. (2020). Reshaping Assessment Practices in a Philippine Teacher Education Institution during the Coronavirus Disease 2019 Crisis. *Pedagogical Research*, 5(4). <https://doi.org/10.29333/pr/8535>
- Chan, C. K. Y. (2023). A review of the changes in higher education assessment and grading policy during covid-19. *Assessment and Evaluation in Higher Education*, 48(6). <https://doi.org/10.1080/02602938.2022.2140780>
- Cheptoo, R., & Ramdas, V. D. (2020). Competency-Based Curriculum in Kenya: A critique. *International Journal of Creative Research Thoughts*, 8(6).
- Cheruiyot, B. (2024). Challenges Faced in the Implementation of Competency-Based Curriculum (CBC) in Junior Schools in Kenya. *East African Journal of Education Studies*, 7(3), 260–266. <https://doi.org/10.37284/eajes.7.3.2098>
- Ehrlich, H., Sutherland, M., McKenney, M., & Elkbuli, A. (2021). Implications of the United States Medical Licensing Examination Step 1 Examination Transition to Pass/Fail on Medical Students Education and Future Career Opportunities. *American Surgeon*, 87(8). <https://doi.org/10.1177/0003134820973382>
- Flick, U. (2020). What is mixed methods research? In *Doing Triangulation and Mixed Methods*. <https://doi.org/10.4135/9781529716634.n5>
- Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Methods of data collection in qualitative research: Interviews and focus groups. *British Dental Journal*, 204(6). <https://doi.org/10.1038/bdj.2008.192>
- Gulled, Y. M. (2023). Paradigms for Contextualizing Competency Based Curriculum in Africa: Inferences from the OECD Countries. *Education Quarterly Reviews*, 6(1). <https://doi.org/10.31014/aior.1993.06.01.721>
- GÜR, R., & KÖROĞLU, M. (2023). The complexity of the grading system in Turkish higher education. *International Journal of Assessment Tools in Education*, 10(4). <https://doi.org/10.21449/ijate.1266808>
- Hamilton, A. B., & Finley, E. P. (2019). Qualitative methods in implementation research: An introduction. *Psychiatry Research*, 280. <https://doi.org/10.1016/j.psychres.2019.112516>
- Hasselblad, H., & Bejerot, E. (2020). Representing and intervening in Swedish education—Mediating and adjudicating by grading numbers. *Financial Accountability and Management*, 36(1). <https://doi.org/10.1111/faam.12213>
- Hussein, A. (2023). The Challenge Face in the Implementation of Competency-Based Curriculum in Northern Kenya. *African Journal of Education and Practice*, 9(3). <https://doi.org/10.47604/ajep.2163>

- Huynh, A., Nguyen, A., Beyer, R. S., Harris, M. H., Hatter, M. J., Brown, N. J., De Virgilio, C., & Nahmias, J. (2023). Fixing a Broken Clerkship Assessment Process: Reflections on Objectivity and Equity Following the USMLE Step 1 Change to Pass/Fail. *Academic Medicine*, 98(7).
<https://doi.org/10.1097/ACM.00000000000005168>
- Imana, D. K. (2020). The Politics of Education Reforms in Kenya: Critical Assessment of the Education System from 1963-2020. *Journal of Community Positive Practices*, 20(2).
<https://doi.org/10.35782/jcpp.2020.2.02>
- Kenya Institute of Curriculum Development, (2017). *Basic Education Curriculum Framework 2017 Republic of Kenya*.
- Kim, J. (2015). Competency-based Curriculum: An Effective Approach to Digital Curation Education. *Journal of Education for Library and Information Science Online*, 56(4), 283–297.
<https://doi.org/10.12783/issn.2328-2967/56/4/2>
- Kleinman, S. B., Leidman, M. B., & Longcore, A. J. (2018). The changing landscape of grading systems in US higher education. *Perspectives: Policy and Practice in Higher Education*, 22(1).
<https://doi.org/10.1080/13603108.2017.1279692>
- Kubai, E. (2023). A critical review of the challenges facing the competency-based assessments in the competency-based curriculum in Kenya. *Journal of Education and Practices*, 3(3).
- Kumar, P., & Sharma, R. (2014). Grading System in Education: An Overview. *SSRN Electronic Journal*.
<https://doi.org/10.2139/ssrn.2438412>
- Lundqvist, E., & Lidar, M. (2021). Functional coordination between present teaching and policy reform in Swedish science education. *Education Inquiry*, 12(2).
<https://doi.org/10.1080/20004508.2020.1823132>
- Matere, A. (2024). From 8.4.4 to Competence Based Curriculum: Emerging Issues of Transition in Education in Kenya. In *International Journal of Curriculum and Instruction*, 1(1).
<https://orcid.org/000-0002-6882-5135>
- Mpisili, M. (2022). Innovation and Strategic Management Practices in the Implementation of Competency-Based Curriculum in Kenya. *International Journal of Current Aspects*, 6(1). <https://doi.org/10.35942/ijcab.v6i1.241>
- Muchira, J. M., Morris, R. J., Wawire, B. A., & Oh, C. (2023). Implementing Competency Based Curriculum (CBC) in Kenya: Challenges and Lessons from South Korea and USA. *Journal of Education and Learning*, 12(3). <https://doi.org/10.5539/jel.v12n3p62>
- Munyasia, N. M., & Sika, J. O. (2020). *European Journal of Education Studies Quality CBC Education in Kenya by 2030: Projecting Enrolment in Primary and Secondary Schools in Siaya County*. 7, 2020.
<https://doi.org/10.46827/ejes.v7i7.3166>
- Muricho, P. W. (2023). Analysis of Education Reforms and Challenges in Kenya: A Historical Perspective. *International Journal of Current Innovations in Advanced Research*. <https://doi.org/10.47957/ijciar.v6i1.148>
- Naomi, C., Kaptingei, S., & Rotumoi, J. (2023). Influence of teachers' preparedness on implementation of competency-based curriculum (CBC) in public primary schools in Bomet east sub-county, Kenya. *International Journal of Research and Innovation in Social Science*, 07(01).
<https://doi.org/10.47772/ijriss.2023.7104>
- Njiru, L. M. (2014). Job satisfaction and motivation among teachers of Kiharu district in Kenya. *Mediterranean Journal of Social Sciences*, 5(5 SPEC. ISSUE), 135–152. <https://doi.org/10.5901/mjss.2014.v5n5p>
- Nyaboke, R., Kereri, D., & Kerubo Nyabwari, L. (2021). Available online at globets.org/journal. In *International Journal of Education Technology and Science Nyaboke, Kereri, Nyabwari/ International Journal of Education* (Vol. 1, Issue 4).
<https://orcid.org/0000-0002-5562-932X>,
- Ogula, P. A. (2023). Analysis of the Placement of Grades 7, 8 and 9 In Kenya's Education System. *East African Journal of Educational, Social Science, and Humanities Research*, 1, 19–31.
- Onditi, S. A., & Ajwang, S. O. (2020). Computer Assisted Learning for Enhancing Mastery of Concepts in Science. *International Journal on Research in STEM Education*, 2(2).
<https://doi.org/10.31098/ijrse.v2i2.382>
- Opondo, R. O., Adwande, J., & Kamau, L. N. (2023). Challenges Facing Implementation of Competency-Based Assessment in Kenyan Primary Schools, Case of Kajiado County. *International Journal of Education and Research*, 11(1).
- Pal, D. B. (2022). Grading System at Secondary Education Examination in Nepal. *Journal of Durgalaxmi*.
<https://doi.org/10.3126/jdl.v1i1.57104>
- Quintana, R., & Quintana, C. (2020). When classroom interactions have to go online: the move to specifications grading in a project-based design course. *Information and Learning Science*, 121(7–8).
<https://doi.org/10.1108/ILS-04-2020-0119>
- Rodgers, D., & Alice, Y. (2023). Communication and collaboration: The paradox of the new competency-

- based curriculum in Kenya. *American Journal of Social Sciences and Humanities*, 8(2).
<https://doi.org/10.55284/ajssh.v8i2.961>
- Tan Yuen Ling, L., Yuen, B., LOO, W. L., Prinsloo, C., & Gan, M. (2020). Students' Conceptions of Bell Curve Grading Fairness in Relation to Goal Orientation and Motivation. *International Journal for the Scholarship of Teaching and Learning*, 14(1).
<https://doi.org/10.20429/ijstol.2020.140107>
- Timans, R., Wouters, P., & Heilbron, J. (2019). Mixed methods research: what it is and what it could be. *Theory and Society*, 48(2).
<https://doi.org/10.1007/s11186-019-09345-5>
- Victoria, G., Rao, G. R., Rao, A. R., & Rao, P. P. (2022). Revisiting education reform in Kenya: A case of Competency Based Curriculum (CBC). In *www.ijerst.com*, 18(1). www.ijerst.com
- Wekesa Jesse, Dr. N., & Joshua Olela, O. (2022). Education in the New Era: Challenges and Opportunities from Content-Based Curriculum to Competence-Based Curriculum in Kenya. *International Journal of Scientific Research and Management*, 10(11).
<https://doi.org/10.18535/ijstrm/v10i11.el02>
- Zubiaurre Bitzer, L. A., Dathatri, S., Fine, J. B., & Swan Sein, A. (2023). Building a student learning-focused assessment and grading system in dental school: One school's experience. *Journal of Dental Education*, 87(5).
<https://doi.org/10.1002/jdd.13158>



Issues and Ideas in Education

Chitkara University, Saraswati Kendra, SCO 160-161, Sector 9-C,
Chandigarh, 160009, India

Volume 12, Issue 2

September 2024

ISSN 2320-7655

Copyright: [© 2024 Felix Chepchieng Aengwo and Ismail Thamarasseri] This is an Open Access article published in Issues and Ideas in Education (Issues Ideas Educ.) by Chitkara University Publications. It is published with a Creative Commons Attribution- CC-BY 4.0 International License. This license permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.