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## COMPETENCE-BASED CURRICULUM (CBC) IN KENYA AND THE CHALLENGE OF VISION 2030

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### Abstract

The educational system prioritizes the development of skills required in the 21<sup>st</sup> Century, which focuses on students' needs such as collaboration, creativity, and competence. However, many countries cannot achieve the necessary skills without quality education, especially for developing countries like Kenya. In the past, Kenya's aim of the 8-4-4 system of education was self-reliance, but the aim of education was lost because it became too academic and exam-oriented. The current educational ministry's target is to implement a competency-based curriculum (CBC), 2-6-6-3, introduced in 2019 to meet the vision 2030 of science and technology and innovation. CBC requires students to be engaged in class to become creative thinkers and develop knowledge and skills to meet the vision of 2030. This paper seeks to provide a comparative analysis of the 8-4-4 and the CBC to explore and critique the future of CBC well as a comparative review analysis of the 2019 Kenya census was reviewed and retrieved from the 2019 Kenyan census using secondary data. Also, this paper answers two questions 1. What skills should Kenyan teachers have to meet the aspiration of the 2030 vision? 2. What resources are needed to ensure the proper implementation of CBC? Based on the analysis, Kenya has adopted a new Competence-Based Curriculum (CBC) for student-centered learning to improve and guarantee quality and equitable education.

*Keywords:* Competence-based curriculum, Education, Student-Centered Learning, Challenges

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## 1. Introduction

The 21<sup>st</sup> Century is a century of creative talents such as problem-solving, problem identification, and strategic-brokering activities (Reich, 1992). These skills require learners to be creative thinkers and problem solvers. In tradable sectors, such as industrial and manufacturing companies, creative skills are essential to enable world market globalization and competence. Countries that are economically stable and have higher technological advancement have advanced education (Masika, 2020). Therefore, it's significant for developing countries such as Kenya to focus on and analyzes their education to ensure quality education is provided to students. After the independence, Kenya adopted a 7-4-2-3 system which aimed at unifying the nation and preparing learners to serve the country; however, 7-4-2-3 did not meet the aspiration of the labor market and technological skills (Wanjohi, 2011). Later, the 8-4-4, which was introduced in 1985, is in the process of reform to a new curriculum, 2-6-6-3 (Basic Curriculum Reform Framework, 2017). The 8-4-4 system of education has been criticized for not exposing students to competencies and skills development (Elsayed et al., 2021). Additionally, the 8-4-4 is too academic and encourages the passing of examinations (Basic Curriculum Reform Framework, 2017). This review paper seeks to answer two questions 1. What skills should Kenyan teachers have to meet the aspiration of the 2030 vision of science and technology and innovation? 2. What resources are needed to ensure the proper implementation of Competence-Based Curriculum (CBC)?

This review focuses on two aspects; the first provides a systematic analysis of Kenyan teachers' resources to meet the vision 2030. The second aspect is to analyze what the Kenyan government needs to focus on to ensure quality and equitable implementation of CBC. Thus, the significance of this comparative review is to enable the understanding of the resources, teachers need to focus on to provide quality and equitable education to students and the resources the government of Kenya needs to ensure proper implementation of the new CBC.

### *1.1. The History of Kenyan Education*

Kenya gained its independence from Great Britain in 1963 (Lelei & Weidman, 2012). After the independence, Kenya adopted a system of education (Cheptoo & Ramdas, 2020). The design of the adopted education was the 7-4-2-3, in which a student would attend seven years of primary school, four years of secondary school, two years of advanced secondary school, and three years of university education (Makatiani et al.,2016; Lelei; Weidman, 2012 & Amukowa,2013). The 7-4-2-3 system was to act as a bridge to attaining highly skilled workers that could transform Kenya to become a source of investment and bring change (Amukowa et al., 2013). Later, it was found that there was no equity of the resources in urban and marginalized areas, which led to the declaration of free primary education to ensure all children and more especially those from poor backgrounds, could benefit from the education and get free milk at school (Lelei & Weidman, 2012). Education was alluded to as a route to

employment and earning decent wages; unfortunately, the number of unemployed increased (Wanjohi, 2011). It was also reported that some of the school leavers were selective on the type of job they projected for a while attending (Amukowa et al., 2013). This possibly encouraged poverty as a result of unemployment and poor standards of living.

Later, Kenya went through 7-4-2-3 curriculum reform, which implemented the 8-4-4 system for about three decades (Basic Curriculum Reform Framework, 2017; Milligan, 2017; Cheptoo & Ramdas, 2020). The adoption of the 8-4-4 system took place in 1984 (Lelei & Weidman, 2012; Mackatiani et al., 2016). During the 8.4.4 system, students attended eight years of primary school before sitting for their Kenya National Exam (KCPE) to test their ability to proceed to secondary school. Thus, the secondary school years took four-year. Then, the students would get examined for the Kenya Certificate of Secondary Education (KCSE) to join university, taking another four-year course. The 8-4-4 system was introduced to promote self-reliance and employment to primary and secondary school graduates (Milligan, 2017 & Amukowa et al., 2013). However, the 8-4-4 system was only practically oriented on theory work and not laboratory work since the government did not create learning workshops and laboratories in all learning institutions, forcing the community to ensure that the laboratories and workshops were equipped (Milligan, 2017). Laboratories were meant to enable learning and acquiring practical skills and workshops for teachers' training (Wanjohi, 2011). However, it could be a challenge to have advanced laboratories due to a lack of equipment since the community cannot afford much to offer for their children to learn and gain the required skills.

Although the 8.4.4 system was established more than three decades ago, it has continued to face criticism such as poor infrastructure, lack of resources, unskilled teachers, crowded classrooms, and the production of inexperienced graduates (Cheptoo & Ramsadan, 2020; Moronga et al., 2021). The 8-4-4 system is also too rigid, and it does not expose students to varied opportunities to expose students to their career interests (Masika, 2020). For instance, Milligan (2007) stated that secondary school education in Kenya contains little practical and vocational training. The limited number of practical and vocational training does not provide enough exposure to developing skills that can lead to job creation. Another critical problem that faced the 8-4-4 system was that education made people believe that they would earn a decent income (Lelei & Weidman, 2012). Educational criticisms and uncertainties that undermined Kenyan education led to curriculum reform of the 8-4-4 system into the new competency-based curriculum (CBC).

### *1.2. Competence-Based Curriculum (CBC)*

CBC is a type of learning, which accords students with the responsibility to learn independently to demonstrate their competence skills in their talents (Ashioya et al., 2020). Many countries in Africa have implemented the CBC, such as South Africa, Rwanda, Zambia, and Tanzania (Mironga et al., 2021). Kenya has also adopted CBC to align African education

with world standards (Masika, 2020; Anzoyo et al., 2011). The implication of implementing the CBC is advocating the provision of free primary and secondary school education, vocational studies to obtain and gain skills for the development of the Kenyan economy (Akala, 2021). The competence skills acquisition will transform the Kenyan nation economically by creating employment and improving living.

CBC was proposed following the National Educational Needs Assessment report I, which took place in 2009. The proposed educational reform in Kenya's first launch of CBC took place in 2017 and transformed into an educational system of 2-6-6-3 (Masika, 2020). Although CBC is in the implementation process and started in 2019, the new curriculum does not affect students in 4<sup>th</sup> grade as of 2019 because those students will continue to receive instructions under the 8-4-4 system until they complete their education (Basic Curriculum Educational Framework, 2017).

The prime objective of CBC is that every learner will be competent in the following seven core competence areas: communication and collaboration, critical thinking and problem-solving; citizenship; learning to learn; self-efficacy; and digital literacy and to create an opportunity for every Kenyan student to be engaged and empowered to become a productive citizen (Basic Education Curriculum Framework, 2017). Also, CBC is expected to align with the proposed worldwide curriculum, which aims to impart knowledge to students to develop essential skills in this technological era, compete in the job industry, and create change in society (Wambua, 2019). CBC aspired to solve society's needs and the technological social-economic demands and promote advancement (Masika, 2018). CBC in Kenya also focuses on developing students' critical thinking, nurturing students' passions, and developing their talents and competence (Cheptoo & Ramsden, 2020). During the CBC, the learner becomes independent and practices the understood skills to prepare for their future. Also, CBC focuses on students' assessment and grading, acquiring skills that are overall reported to the ministry of education by their teacher, who acts as their supervisor (Cheptoo & Ramsdan, 2020). During the CBC, student needs and interests are valued and met before their school and parents (Masika, 2018). Consequently, learners are exposed to practical classroom experiences to enhance their life skills (Mulenga & Kabombwe, 2019). Exposure to such practical skills will transform students and create the self-reliance and competence skills required in the new CBC.

CBC is exercised at school and extends its roots to home. Students are not to depend upon teachers to deliver all the information but to search for educational information and become educational investors instead of relying on the teacher to provide directions. The students' assessment will be based on English activities, Mathematics activities, and Integrated Learning Areas because their grade teacher will supervise these assessments, and the teacher will be obligated to upload the evaluation to the KNEC portal (Basic Education Curriculum Framework, 2017). Also, exams are not focused under CBC, but competency will be measured

based on assessments (Amutabi, 2019). Students will sit for five national assessments in their primary school education, which will replace the Kenya Certificate of Primary Education (KCPE) exam, and eight national assessments in junior and senior high school, which will replace the Kenya Certificate of Secondary Education (KCSE) exam (Basic Education Curriculum Framework, 2017).

## **2. Methods**

The study provides a comparative analysis of the 8-4-4 system from the existing literature and the newly introduced CBC, which is in the implementation process, retrieved from the Basic Curriculum Educational Framework, 2017, and other literature. Also, a comparative analysis of the 2019 Kenya census was reviewed and retrieved from the 2019 Kenyan census. The data provided in this review is secondary, which was freely accessed online to explore, give an analysis, and critique and compare the current education offered in Kenya and the future of CBC. In addition, the 2019 census report was analyzed to give the highest level of learning and the number of those working and those not working.

### *2.1. Objective of the Review*

The purpose of this comparative review is to provide a systematic analysis of Kenyan teachers' resources needed to meet the vision 2030 of science and technology and innovation and to analyze the resources the Kenyan government needs to focus on to ensure quality and equitable implementation of CBC.

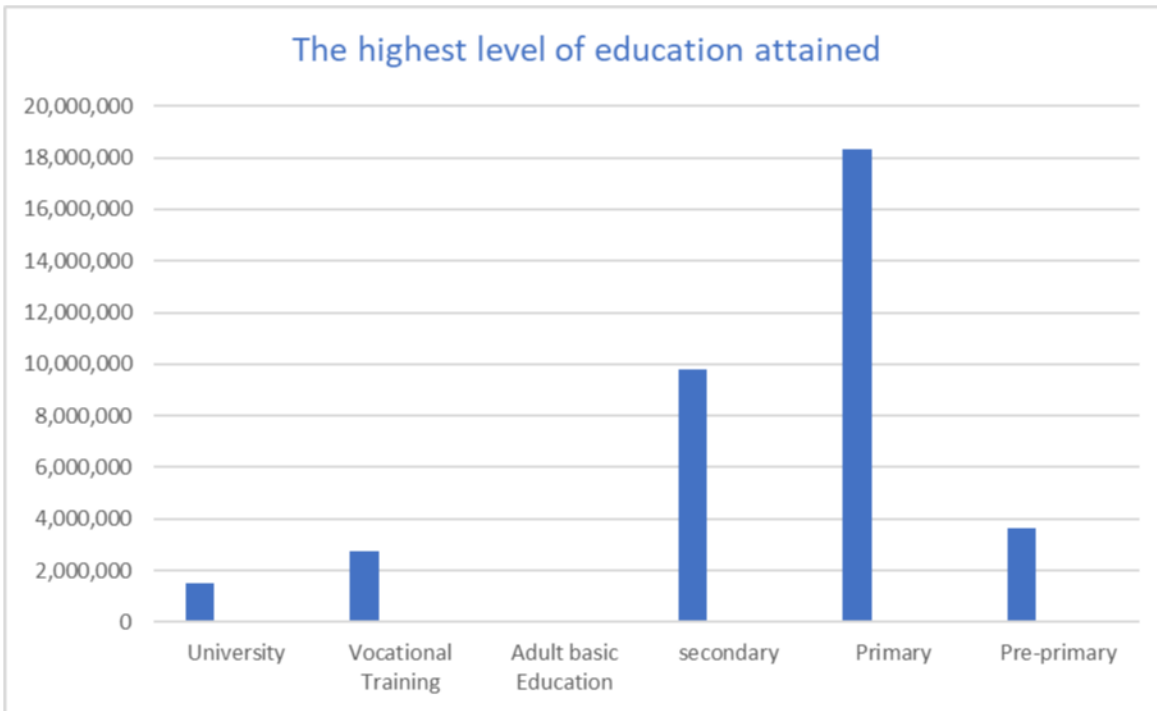
## **3. Results**

### *3.1. The differences between the 8-4-4 system of education and the newly introduced CBC (2-6-6-3)*

During the 8-4-4 system of education, the student must attend eight years of primary school, four years of secondary and four years of the university while the new CBC, students must attend two years of pre-primary school, three years of lower primary, three years of upper primary, three years of lower secondary, senior years of senior school and finally three years of university. Additionally, in the 8-4-4 system, education promotes content-centered learning for better grades, while the CBC encourages student-centered learning to contextualize competence and nurturing skills. Finally, the 8-4-4 system focuses on students' performance, while the new CBC focuses on students' assessments.

### 3.2 . The highest level of education in different learning levels attained by Kenyans in 2019

Figure 1. Shows the 2019 census number of those who completed primary school, secondary school, vocational training, and university education. Those who completed primary school education are higher than secondary school, possibly because secondary school education was expensive (Wanjohi,2011). Most parents could not afford to cater to their children's fees, which resulted in their children ending their education at the primary level.



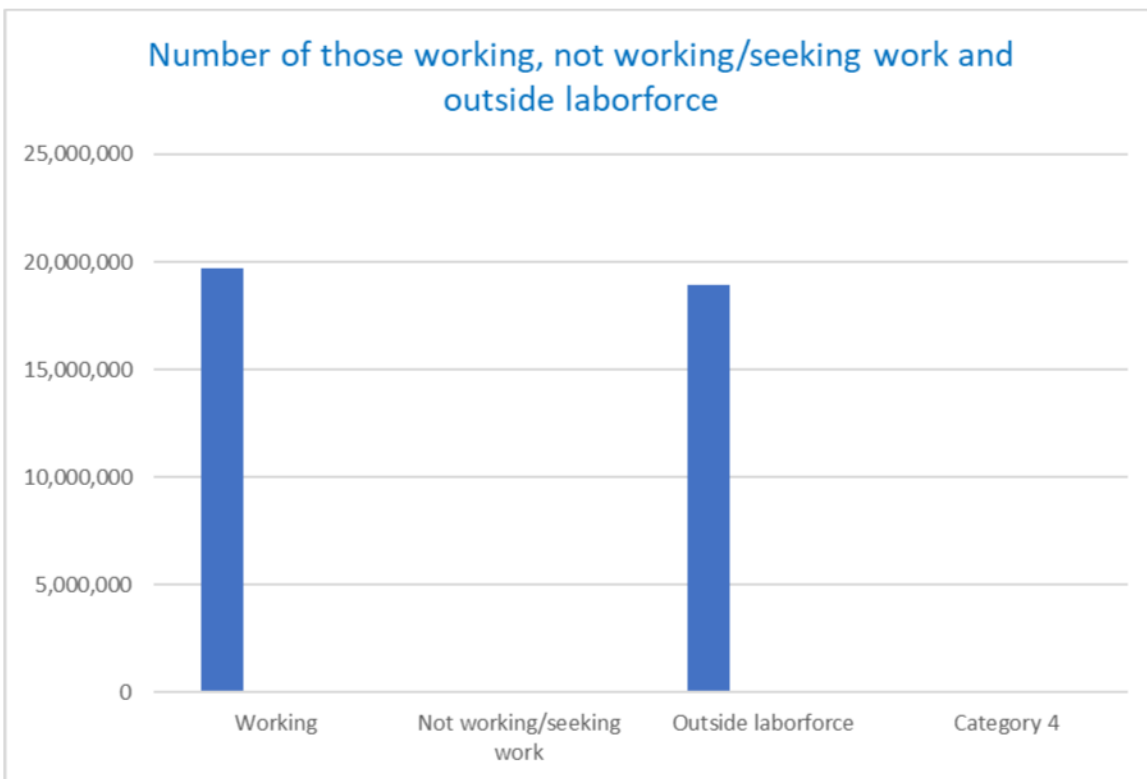
Education in Kenya was expensive before the third president of Kenya, Mwai Kibaki, rose to power in 2002 and declared free education. However, free education was not entirely free since parents are obligated to purchase school furniture such as desks and reading tables, and school stationaries such as textbooks, notebooks, erasers, folders, pens, pencils, sharpeners, etc. Furthermore, the number of those who completed university and vocational training are very few because there is an average grade point for those who qualify for University entry and vocational colleges. In addition, the minimum entry grade limits many students from joining tertiary level regardless of those who come from privileged families. For instance, Milligan (2017) asserts that when the 8-4-4 system of education was conceived in Kenya, a minimum grade of B- was expected from secondary school to join the university, and later that grade was lowered to C+ which resulted in only 4000 who were able to achieve C+ in 1990. Therefore, such minimum grade entry limits many students from joining the university. Finally, the number of adults who attended the basic level of education is meager. For example, it is represented below 0 in graph a; that could be since most people do not realize



the implication of attaining higher education, and therefore, people prefer to settle just for primary education.

3.3. *The number of those working, seeking work, and those outside the labor force in Kenya*

Figure 2. Shows the number of those working, not working, seeking employment, and those out of the labor force. The number of those working is slightly higher than those out of the labor force because of the lack of enough jobs, leading to competition for few working slots. Those out of the labor force could be due to search for employment and unsuccessful and hence reluctant to continue seeking employment. It could also be due to a lack of specialized skills to develop themselves to create jobs for themselves and others. The number of those not working and seeking employment is 2,621 and is below 0 on the graph, and it is not represented in the diagram. The number of those seeking work but unsuccessful could be due to lack of motivation and lack of specialized skills required in specific jobs, and they have despaired while seeking employment with no success, resulting in a reduced number.



The 8-4-4 system of education has failed Kenyans and, more significantly, graduates. For example, the Business Daily Newspaper (2020) reported an unemployment of 38.9%. Since unemployment continues to rise, there is increased school dropout and the rise of street children, which has continued widening the gap between the rich and poor in Kenyan society.



Poverty is a global crisis that affects every country globally and is rated differently in every country (Jefferson, 2018). Mainly, poverty is discussed among developing countries (Addae-Korankye, 2014). The leading cause of poverty includes dysfunctional institutions, discriminations, low social, economic status, low human capital, poor use of the resource, lack of employment, low income, poor access to healthcare, poor market trade, inadequate access to educational skills (Jefferson, 2018; Addae-Korankye, 2014). The poverty level among Kenyans is above 70% (Oluoko-Odingo, 2009), and its eradication has been prioritized since Kenya became free from colonial rule, but the effort to eradicate it has been futile (Omari & Muturi, 2016). The vision 2030 in Kenya is to attain middle-class status by its economy growing by 10%, but poverty has dramatically increased except for few times (Omari & Muturi, 2016). However, it is too early to anticipate the economic growth by 2030 since those first introduced to CBC are in 5<sup>th</sup> grade, and in the next nine years, they won't have graduated from college and explored their skills

### *3.4. Challenges Facing CBC*

Since Kenya is still developing, several challenges face the implementation of CBC, such as the quality of teaching and learning resources and teachers' pedagogical content knowledge (PCK) (Mulenga & Tutongwe 2019). Also, in Kenya, education is determined by the government, which poses a challenge to the success of the CBC because teachers have not been fully involved in designing and implementing the new CBC (Masika, 2020). Furthermore, financial implication poses a significant challenge in affecting the CBC, and it might be too expensive in the sense that some speculations have emerged that free education might not continue as expected. Parents might bear the burden soon of paying children's school fees, or the government might subsidize the cost of education (Namwambah, 2020). As a result, education might be too expensive for poor citizens, and their children might not be lucky to get the education claimed for all.

### *3.5. Recommendation for Successful implementation of CBC in Kenya*

#### *3.5.1. School Curriculum*

A curriculum does not have a specific term that can define it but rather the way things are organized systematically to satisfy a given specific function. Therefore, a curriculum is a broad term that applies in school, society, and the workplace. Thus, a curriculum acts as a system to convey the message to the citizens to empower them with valuable knowledge, societal values and skills, and attitudes to boost their economic development (Wambua & Waweru, 2019). For example, Dewey (1916) “the scheme of the curriculum must take account of the adaptation of the studies to the needs of the existing community life; it must select to improve the life we live in common so that the future shall be bright than the past” (p.120). Since the CBC is under the implementation process in Kenya, it must be constantly

evaluated and modified by educational experts. For instance, Tyler (2017), another traditional curriculum developer, believed that curricula should be dynamic following constant evaluation and revision processes to achieve students' success (P.81). Also, Bobbitt (2017), a traditional curriculum developer, believed that schools should design curriculum to follow a systematic procedure to accomplish a set of goals (P.12). Therefore, Kenya needs to be updated with an evaluated curriculum to the vision 2030 of science and technology and innovation to meet day-to-day needs.

### *3.5.2. Digital Literacy*

Digital literacy is the ability to express the knowledge and skills of various digital devices, which include cell phones and computers (Basic Curriculum Framework, 2017). Due to technological advances and demands that have arisen in the 21<sup>st</sup> Century, educational reform has taken its advancement too, and its implementation and success have been recorded in developed countries such as the United States of America (USA) (Cheptoo & Ramsadan, 2019). However, technology use can be complicated if not very familiar with the new technologies in the market every short period. This may lead to frustrations for those not conversant with its new operation. Therefore, digital literacy is one of the skills required under CBC, and teachers must undergo training to attain the technological skills to act as a bridge from the 8-4-4 system to the new CBC (Masika, 2020). This will enable teachers to incorporate technical skills in their teaching to execute the skills to students to gain competence.

Therefore, Kenya must be updated and invest in technology and have experts introduce and train teachers on modern technology and infuse it in their classrooms because not all teachers are fully aware of investing in technology in their classes. For example, in a study conducted in Kiambu County, only 13.75 % of teachers reported their literacy incorporating computers in their classrooms and pre-school teachers at Dagoretti North Sub County, where most teachers do not possess computers knowledge (Masika, 2020). Another study by Kerkhoff & Makubuya (2021) reported that teachers primarily used technology for teaching preparation and records keeping instead of engaging students in digital literacy practices due to a lack of enough technologies. Therefore, Kenya must ensure that teachers have enough access to computers and students so that they can practice and use to become computer literate.

### *3.5.3. Teacher Training*

Teachers are a significant investment in each country's development and a critical factor in developing countries like Kenya. The productivity of every nation is measured in terms of quality education. Therefore, teachers should emphasize educational competencies because they are the voice of change based on creativity and innovation (Nasimiyu, 2017). "Education is a fostering, a nurturing, and a cultivating process" (Dewey 1916, p.10). The ability to

nurture and mold a student depends entirely on the teacher's knowledge of instruction and expertise to transmit the instructions to students since the teacher manipulates learning activities to engage students learning (Teygong et al., 2017). Therefore, training teachers on CBC and equipping them with the necessary resources to deliver the instructions in the right way will promote the proper implementation of CBC.

Kenya must ensure that teachers care, inspire and support students by making an inclusive learning environment (Cheptoo & Ramsadan, 2020). Teachers can create instructions to meet 21<sup>st</sup>-century learning skills, develop instructions, and transmit their advanced knowledge and ideas to students to create and apply competence skills (Nasimiyu, 2017). The competence skills include student communication and group work, such as holding discussions and asking questions to probe critical thinking, self-efficacy, and incorporating technology (Cheptoo & Ramsdan, 2020; Wambua & Waweru, 2019). Competence skills will enable students to become self-reliant, creative, and innovative, promoting productive learning to create change.

#### **4. Conclusion**

The new CBC has only existed for two years, and for Kenya to aspire to the vision 2030, it must ensure that current teachers who are obligated to teach the new CBC are well trained to have a clear understanding of what CBC and how it can be implemented because these teachers are products of 8-4-4 which has been stated as a failed curriculum. Also, the CBC committee should allow curriculum specialists, teachers, and parents to be involved in curriculum development. The inclusion of the teachers will enable them to be focused and develop an enthusiasm over discussing issues and ideas to solve the underlying problems observed in class. In addition, parents nurture their children, and they will be free to share what they would like their children to be trained to boost their skills and talents. Kenya must also ensure that there is constant evaluation and modification of CBC by educational experts to ensure all needed information is updated in the curriculum and conform teachers.

Teachers must attend regular training regarding technology use and how to incorporate it into teaching their content knowledge. Also, teachers must be trained on developing pedagogical knowledge to deliver their CBC well to students. Finally, the Kenyan government must identify the needs of Kenyans and lay a strong foundation for CBC because each country has its needs, and Kenyan needs might be different from other countries such as the USA or France, which CBC has done well. Nevertheless, even with the introduction of the new CBC in Kenya, there still might be a challenge to curb unemployment since some of the countries in Africa which have already implemented CBC, such as Zambia, still report a challenge of unemployment and anticipates ways of eradicating it (Aroumougame, 2021). Therefore, full support of resources from the government to the teachers and total dedication of teachers may help students achieve the competence skills necessary.

The study is limited because the data provided is pre-existing, and the method used to collect this data cannot be verified. Furthermore, CBC was implemented two years ago, and there is no long-term effect on the Kenyan education system. Therefore, further study is recommended to evaluate the long-term impact of CBC on the Kenyan education system.

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