



## **The Teacher, Technology, and the Implementation of the Competency-Based Curriculum in Kenya: A Case Study**

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## Abstract

Innovative, knowledgeable, and dedicated teachers, supported by the school administration, can make a breakthrough in learning amidst major obstacles. The implementation of the Competency-Based Curriculum (CBC) now Competency Based Education (CBE), since its introduction in Kenya in 2017, has faced numerous challenges. It departs from the old curriculum, which focused on knowledge-based learning, to a learner-centered approach with minimal teacher professional preparation. Most of the teachers had not experienced a meaningful learner-centred teaching approach in learning as school students and in initial teacher preparation. Constructivism and connectivism theories guided this qualitative case study, which was conducted in a semi-urban public primary school in Kenya. The school was selected due to its continued academic improvement. The research question investigated was: What strategies enabled the teachers to implement the competency-based curriculum? The specific focus was teacher professional support, parental involvement in children's learning, availability of resources for learning, use of technology for teaching, teaching strategies employed. The study utilized primary Grade 3 and Junior secondary school grades 7, 8, and 9, with large classes of 80-85 learners each. Ten teachers were interviewed and observed teaching in class. Qualitative data were collected and analyzed, which established that expected teacher professional support was minimal. It was clear that the school's academic success depended on devoted, diligent teachers who used their cellphones and data to download curriculum designs from the Kenya Institute of Curriculum Development website, interpreted them accurately; the principal supported printing of materials, and teachers used them innovatively in class for teaching and learning. The findings indicated that teacher quality is a major contributing variable to educational success. Schools could emulate this model by ensuring that teachers have easy access to technology tools that support teaching and learning, quality, relevant Open Educational Resources (OERs), ongoing innovative school-based teacher professional development, and strong school administration support.

**Keywords:** Competency-Based Curriculum, strategies, constructivism, connectivism, learner-centred, teacher-centred, approach



## Background

The Competency-Based Curriculum (CBC) introduced in Kenya in 2017 was intended to prepare Kenyan children to meet the challenges of the 21st century (Kenya Institute of Curriculum Development KICD, 2017) and to develop competencies which include critical thinking, communication, collaboration, creativity, digital literacy, and global awareness skills (KICD, 2019) applicable in real-life situations. The term was later changed to Competency Based Education (CBE) to reflect its comprehensive nature, broader and more holistic. The entire education system was a shift from the 8-4-4 traditional curriculum goals that focused on subject knowledge rendering its graduates jobless (Akala, 2021; Kubai, 2023; Sifuna & Obonyo, 2019). Teaching learning process in CBC aims to nurture every learner's potential and enable every Kenyan child to become an engaged, empowered, and ethical citizen (Kenya Institute of Curriculum Development KICD, 2017) emphasizing increased student engagement and ownership of their learning process and stressing on learner-centred approaches that encourage active participation and application of knowledge (Gruber, 2018; Sifuna & Obonyo, 2019). Catacutan et al. (2023) and Gruber (2018) points out that learners who experience curriculum with real-world application and experiential learning show increased engagement, motivation and ownership of their own learning process.

To successfully implement CBC, a shift in instructional practices was required, which depends on quality teacher training that facilitates them to understand the need for curriculum change, pedagogical strategies and a willingness to take ownership of the teaching and learning process (Isaboke, Mweru, & Wambiri, 2021). Curriculum researchers like Hord and Huling-Austin (1986) had advised that curriculum change takes a great deal of time even under the best of circumstances and that teachers require facilitation and support by curriculum experts throughout the implementation period and it should be clear who would facilitate the curriculum implementation. Indeed, Lowe and Appleton (2015) in their study on preparation for curriculum change in Queensland reported that teachers spent two years studying the new curriculum under



facilitation of experts in preparation for its implementation. Alongside teachers, all the education stakeholders, including parents and government officials need to demonstrate a clear understanding and conceptualization of the new curriculum, its implementation strategies and assessment systems (Karakuş 2021). Notwithstanding, in Kenya, curriculum implementation was hurried (Mwirigi, 2024).

The Report of the Presidential Working Party on Education Reform (PWPER) by the Government of Kenya (Government of Kenya, 2023) confirmed findings by past studies such as Kubai (2023) that CBC was not implemented as planned and that many areas required redress; which included teacher preparation, methods of teaching values and community service learning. The parental engagement in children's learning faced challenges of low literacy levels of parents in many parts of the country compounded with parents' negative attitudes and cost of take-home assignments. Validity and reliability of classroom assessment and school-based assessment results' casted doubts. Low digital literacy level among learners, teachers and parents made technology integration in teaching a challenge. The curriculum designs were overloaded and had to be restructured and teachers retooled.

## **Statement of the problem**

Amidst the struggles faced in the implementation of CBC and the expectations, a school in Kenya was observed to be successfully implementing the new curriculum though with struggles. This developed research interest to find out the strategies the school used to navigate the difficulties

The purpose of this study was to determine specific strategies which teachers employed to enable them implement CBC with positive results and also to find out whether the challenges reported by studies and after action taken following the Report of the Presidential Working Party on Education and Reforms (Government of Kenya, 2023) had been addressed. The findings could



benefit school teachers, parents, learners and other education stakeholders to support CBC curriculum implementation.

This study therefore sought in depth investigation of the phenomenon where learning progressed amidst major challenges. It sought to answer the main research question: What strategies enabled teachers to implement competency - based curriculum amidst challenges? The specific questions examined were: What type of professional support did teachers in the school receive to support CBC implementation? How were resources made available for use in teaching and learning? In what ways were parents/ guardians involved in the children's learning? What teaching learning approaches were employed to ensure learning took place? How was learning determined?

As a case study, this research faces limitation; only one school was targeted, teachers were observed once. However, this is a pointer that with teacher ownership and creativity even amidst challenges, curriculum implementation is possible and provides a model of how teachers could work under difficult conditions; if some teachers can make it others can too.



## Literature Review

### Teacher preparation for implementation of CBC: Issues and challenges

Research has provided evidence that the CBC curriculum implementation in Kenya faces great issues and challenges. Pale and Amukowa (2020) reported that the implementation of CBC was hurried, not systematically planned and implemented. Many teachers lacked the professional preparation to effectively master CBC content and teaching strategies, due to limited training and learning resources. As a result, the teachers' ability to apply the essential knowledge and skills of delivering the curriculum employing learner - centred pedagogies was limited. In addition, there was minimal public participation in the curriculum reforms process and therefore parents and other critical education stakeholders did not conceptualize the CBC curriculum implementation demands. In addition, Kubai (2023) reported unclear educational policies governing CBC assessment causing unclear validity and reliability of learners' scores, poor ICT infrastructure, inadequately trained teachers, and a negative attitude among educational stakeholders towards the new curriculum. Muasya and Waweru, (2019) similarly found that the implementation of CBC faces with numerous challenges which include inadequate teacher capacity, inadequate learning materials, and low parental engagement.

Sifuna and Obonyo (2019) examined the benefits and challenges teachers faced when implementing the Competency-Based Curriculum and in agreement with other studies reported that implementation of CBC faced significant challenges right from its inception.

### Parental Involvement in Support of CBC Implementation

Parents play an essential role in their children's education and CBC identifies parents as key stakeholders in education (KICD, 2019) required to maintain open communication between home and school (Amunga, Were & Ashioya, 2020; KISC, 2019). Parents involvement and a strong parent-teacher partnership encourage collaboration among all stakeholders and ensures the learner's success.



Amagove, Limboro, and Itolondo (2024) reported that positive outcomes for parent involvement depended on developing parents' capacity to support their child's learning at home. However, research indicates that parents were reluctant to participate in their children's learning. Amunga, Were and Ashoiya (2020) found that parent involvement was hindered by lack of parent buy-in, awareness of their role as a co-teacher in their child's learning, knowledge, and skills: know-how, resources, and time. In their study Amunga, Were and Ashoiya (2020) found key factors contributing to positive parent involvement included parent workshops designed to promote an awareness of their roles and responsibilities in their child's education, Research therefore shows that parent engagement improves when schools provide school and community networks and parent training to equip them with the necessary knowledge, skills, and resources to support their child's education.

## **Instructional Strategies that Support Competency - Based Curriculum Implementation**

Nsuengula et al. (2024) explored ways to improve student engagement and parent involvement through the implementation of a flipped classroom model. The study revealed increased student participation when students accessed learning materials and content at home before classroom lessons. Document analysis of lesson plans and assignments revealed that competency-based curriculum and instructional practices supported greater collaboration, and classroom discussions enhanced student learning and the application of real-world problem-solving. Researchers concluded that a flipped classroom model complemented and promoted key CBC competencies such as communication, collaboration, and digital literacy

In USA emphasis in implementation of CBC is laid on deeper learning by use of learner - centered learning strategies, and personalized learning that utilizes pedagogical techniques that



encourage collaboration among learners, inquiry by learners, reflective and analytical thinking, creativity, and problem solving (Muchira, Morris, Wawire & Chorong, 2023).

Otieno, Swai, and Bwagilo, (2025) in their study in Tanzania recommended continuous professional development of teachers, training in learner- centred CBC pedagogy and assessment, supportive institutional policies, and systematic monitoring of teachers' attitudes to strengthen curriculum implementation and improve learning outcomes.

In New south Wales curriculum implementation seeks to promote in depth learning, by providing opportunities for learners to apply their learning in context and apportion time to allow them to build skills in knowledge application through student projects and problem-based activities (Masters, 2020).

## **Technology and Resources to Support Competency-Based Curriculum**

The integration of technology into the classroom offers valuable support in the implementation of CBC. Kimani et al. (2022) examined the role of ICT as a tool to improve quality teaching, learning, and management within a school-wide program. The use of technology improved student learning outcomes by providing access to teaching and learning materials, aiding teachers in planning and delivering innovative lesson plans, and enhancing the home-school connections by providing open forms of communication, access to learning materials, and opportunities for parents to stay informed about classroom learning activities and the specific needs of their child.

Murithi and Yoo (2021) reported that teachers showed a positive attitude about the inclusion of technology into their teaching, learning, and assessment systems for CBC. They recognized the power of technology to improve their pedagogical practices. Teachers, however, stated that without ongoing teacher training that advances their knowledge beyond basic computer



applications, they were unable to access digital resources and use technology to meet the challenges of implementing CBC in their planning, teaching, and assessment of their learners.

Technological Pedagogical Content Knowledge (TPACK) offers guidelines highlighting the necessary components of incorporating technology into pedagogical practices, which emphasizes the need for technological knowledge, pedagogical knowledge, and content knowledge (Co-Create Hub, 2023). Technology allows teachers to explore and adapt technological teaching and learning practices like blended learning, flipped classrooms, and project-based learning as tools to effectively integrate technology into the classroom. The TPACK framework (Mishra and Koehler, 2006) encourages development of appropriate assessment methods to evaluate student learning and teachers' knowledge of technological pedagogical content knowledge (Co-Create Hub, 2023).

## **Theoretical Framework**

Connectivism theory of the digital age offers a model of learning theory appropriate for this study, where teaching and learning calls for adaptive skills of connecting dynamic, ever-evolving knowledge from different networks and technologies (Siemens 2005; Darbhanga & Azad, 2024). Connectivism is a networked social learning (The International HETL Review, Special Issue, 2013). The teachers accessed the Kenya Institute of Curriculum Development (KICD) curriculum designs, interacted with them, researched further, and provided guide for the learners to develop skills to engage in learner-centred activities. Through teacher creativity, learners connect and collaborate with their peers in class.

The study is also guided by the constructivist theory, where teachers are required to facilitate learners to actively construct knowledge (Chand, 2024). Magdalena (2016) in Chand explains that in constructivist classrooms, social interaction is central to learning because higher mental



functions such as reasoning, comprehension, and critical thinking emerge from social interactions and are then internalized by individuals.

## Methodology

This study employed a qualitative case study methodology and was conducted in a semi-urban school in a medium-sized town in Kenya, selected due to its continued academic improvement in 8-4-4 which is expected to be seen in CBC. The methodology allowed exploration of the phenomenon within its context (Baxter & Jack, 2014). Turner (2019) holds that a qualitative case study takes a qualitative inquiry approach, which could be exploratory, interpretive, or descriptive, and the researcher should be familiar with the site and the research subjects. In this study initial casual meetings to the school created the familiarity.

The Structure of CBC in Kenya is 2-6-3-3 which indicate 2 years pre-primary education (PP1 and PP2), 3 years of lower primary (grades 1,2 and 3), 3 years upper primary (grades 4.5.and 6), 3 years Junior secondary (grades 7,8 and 9), and 3 years of senior school (grades 10,11 and 12) with path three ways: Art and Sport Science, Social Sciences and Science, Technology, Engineering and Mathematics [STEM] (GOK, 2023).

## Study Participants

This study utilized primary Grade 3 and Junior secondary school grades 7, 8, and 9, with large classes of between 80 to 85 learners each of mixed boys and girls. Grade 3 was selected because it is the middle of primary school, and grades 7,8, and 9 were selected because they are Junior secondary school. A total of ten teachers participated in the study, two from grade three and eight from grades 7, 8, and 9.

In the Grade 3 classroom, the class teacher and the assistant teacher participated in the study. Both teachers hold a certificate in primary teacher education.

In Grades 6, 7, 8, and 9, teachers were university graduates with earned Bachelor of Education



degrees, specialized to teach two 8-4-4 secondary school specific subjects across grades 7,8 and 9. The teachers had been newly posted to teach in the junior secondary school hosted in a primary school. All teachers in grade 3 and junior secondary school were study participants.

## **Data Collection and Analysis**

This study employed a qualitative case study design selected to gather in-depth insight on strategies teachers employed to address challenges of curriculum implementation, the strengths and challenges of the implementation of competency-based curriculum (Creswell et. al, 2007).

The research instruments used to collect data were interviews and classroom observations schedules. Each teacher was interviewed and observed teaching once. The interviews were designed to elicit data about teachers' experiences, perspectives, and opinions on the implementation of competency-based education. The observations allowed the researcher to make connections, verify and confirm interview responses, and develop deeper connections to the themes and conclusions of the study as well as observe the strategies used in teaching. Data were collected using semi-structured interviews through onsite visits. Conducting an onsite interview requires researchers to be aware of the participants attitudes, knowledge, and skills of the participant before, during, and after the interview to ensure that the data is valid and meaningful and to guarantee the confidentiality of the participants (Engward et al, 2022). Each teacher was interviewed for 30 minutes using open-ended interviews addressing the following research questions:

R:1 What type of professional support did teachers in the school receive?

R:2 How were resources made available for use in teaching and learning?

R:3 In what ways were parents/ guardians involved in the children's learning?

R:4 How was learning determined?

R:5 What teaching learning approaches were employed to ensure learning takes place?



Follow-up questions during each interview were conducted to gather critical teacher comments on the curriculum, including how challenges were addressed and the strength of the new competency-based curriculum.

Interview responses and classroom observations were analyzed as the primary data sources to address the study's research questions. Data were analyzed using a thematic approach to identify potential themes as emergent ideas and concepts were identified through the content analysis of the interviews and observations of the participants (Creswell et al., 2007).

Content analysis required researchers to systematically analyze and interpret the content of the interviews and observations to identify patterns, themes and meanings (Creswell et al., 2007; Patton, 2002) The content analysis process required researchers to read through open-ended interview question responses and observations and note emerging themes (Miles & Huberman, 1984). The researchers discussed the themes, redundancies, and inconsistencies to formulate a finalized list of themes: access to teaching materials, teacher knowledge of the goals and implementation of CBC, home and school partnerships, and teacher and parent self-efficacy. Questions were asked based on the research questions and probing followed for clarity and expounding of findings.

## **Results and Discussion**

This qualitative study explored the essential components of implementing the Kenya Competency-Based Curriculum. The research aimed to identify the strategies teachers used to address the difficulties they faced when implementing CBC. From the teachers' responses and classroom observations, themes were identified, which help develop a clearer understanding of the supports and challenges teachers experience when implementing the new curriculum. Data confirmed important essential elements required to implement CBC into the teaching and learning environment successfully. Success related to access to teaching materials, teacher,



principal, and parent knowledge of the goals and implementation of CBC, home and school partnerships, and teacher and parent self-efficacy come out.

## Type of teacher Professional support

The study sought to investigate research question, what type of professional support did the teachers in the school receive? And Table one presents the findings.

**Table 1: Type of teacher professional support**

Grade	Research question	What type of professional support did the teachers in the school receive?
		Teachers' voices
3	Challenges and Issues	<i>'There was minimal teacher professional support. One teacher in the zone attended retooling training after curriculum rationalization but we have not yet all been trained. There are no grade 3 learning materials for learners for all learning areas in the rationalized curriculum. The old ones which we use do not correlate with the curriculum designs. Assessment is not in line with the CBC curriculum design. It reflects 8-4-4 assessment which tested knowledge.'</i>
7,8,9	Challenges and Issues	<i>'We attended teacher professional development training several times, where they repeatedly taught the same content in the same way, using a teacher-centred approach unlike the quality training we had received from the Center for Mathematics, Science and Technology in Education in Africa (CEMASTEA) in 2013, but the one from the Ministry of Education falls short'</i>  <i>'The training covered general application of IT in teaching., Learner-centred methods. The trainers did not demonstrate how to apply the method they taught, and honestly, it did not come out. I had to research to know how to apply the methods in a classroom situation and to refer to the CEMASTER training of 2013'</i>



		<p><i>‘The mode of presenting the training content is a teacher-centered approach, while trainees are expected to use learner-centered approaches when teaching in class.’</i></p> <p><i>‘We lack quality trainers for CBC who will prepare us for the application of knowledge and skills in class. The current trainers just give knowledge to be memorized. They keep making contradicting statements and contradict one another’</i></p> <p><i>‘We teach very large classes of 85 learners in one class, which does not allow group work. We need training on how to manage large classes and use learner-centred methods’,</i></p> <p><i>‘JSS teachers are well conversant with the use of technology, but need facilitation on how to use it for teaching.’</i></p>
<p><b>3</b></p>	<p><b>Teacher and school initiative</b></p> <p><b>Teacher self-efficacy improved</b></p>	<p><i>‘I downloaded the curriculum design from KICD website using my smart phone, interacted with it. figured out how to go about teaching’.</i></p> <p><i>‘I then prepared schemes of work from the designs then I draw from the schemes lesson plans. I taught using methods which engage learners in their own learning and we all enjoy the lesson’s.</i></p> <p><i>‘The curriculum designs guide me to prepare interactive activities for my learners. Designs are simplified and clear, it allows every child to learn. I read and figure out activities for learners. I give to the learners, activities to take to parents/guardians who print it out and learners do homework and bring to school’</i></p>



		<p><i>'The headteacher provides us internet, printer and papers to print teaching materials only which is not adequate for all of us. We usually use our own cellphone and sometimes our own money to print teaching materials'.</i></p> <p><i>'We have formed a WhatsApp group of teachers and parents for communication and to support one another'.</i></p>
<b>7,8,9</b>	<p><b>Teacher and school initiative</b></p> <p><b>Teacher self-efficacy to improve instruction</b></p>	<p><i>'We refer to the CEMASTE A training skills to help us employ learner -centred teaching strategies for our classes. Those who did not attend suffer'</i></p> <p><i>'The school provides us digital resources though limited, in form of movable internet, two computers, a printer and papers. We still have to use our cellphones and buy internet bundles. School supports printing of resources for teaching for the teachers. Parents are expected to print work for their children'.</i></p> <p><i>'We formed a WhatsApp group to help one another. We share ideas with one another. We research and read the designs, then work with one another to sort teaching and learning'</i></p>
	<b>Emerging themes</b>	Building Professional Knowledge and Developed teacher innovative initiative
	<b>Attributes</b>	Lack of teacher professional support, Lack and poor access to CBC training, Improved understanding of CBC and use of technology to support teaching and learning, Lack of modeling of CBC learning methods during training, Teacher innovation and self-efficacy to improve instruction, Use of technology to build professional learning communities to support and share ideas



From the responses grade 3 teachers were not well supported to implement the CBC curriculum. This tends to agree with Pale and Amukowa (2020) and GOK (2023) that CBC implementation was hurried. Curriculum should only be implemented by schools that are ready to (Hord & Huling-Austin, 1989). Notwithstanding, CBC had promised to develop competencies and application of skills and knowledge in real life situations according to Sifuna and Obonyo (2019) and Kubai (2023). One wonders whether the curriculum will deliver its promises. The teachers agree that the curriculum is good and one can conclude that there is challenge in CBC teacher preparation. The teachers in Junior Secondary school grades were trained but found the retooling substandard and required the use of previous CMASTE A training.

In both grade 3 and junior secondary grades the teacher innovativeness and development of sense of efficacy was clear. They figured out means of conducting learner- centred lessons:

*'We formed a WhatsApp group to help one another. We share ideas with one another. We research and read the designs, then work with one another to sort teaching and learning'*

To improve their professional knowledge, participants actively engaged in research to identify best practices in implementing CBC and designing lessons. Teachers created professional learning communities through the use of WhatsApp to share ideas, resources, and lesson plan. The teachers' ability to take responsibility for their learning and implementation of the new curriculum showed ownership of the learning process and increased self-efficacy (Isaboke, Mweru, & Wambiri, 2021).

To successfully implement CBC, teachers required support in understanding the fundamental components of the new curriculum, including its goals and purpose, the structure and assessment systems, the curriculum's components, and the necessary knowledge and skills for teaching and learning to achieve the curriculum outcomes. From the teacher responses in Table 1, teacher training workshops offered support in sensitizing teachers the key components of CBC, particularly the differences between 8-4-4 system and CBC curriculum designs, instructional delivery, and the focus from teacher-centered teaching and learning to a child-centered approach



but lacked development of skills to practice learner centred in class. Professional Development workshops addressed the need for technology to be utilized in the classroom to support student learning and parent communication. Teachers expressed concerns about the quality and access to teacher training. The presentations lacked alignment with CBC and failed to model learner-centered constructivist approaches and ways to use technology to aid in planning, implementing, and assessing teaching and learning (Murithi & Yoo, 2021). Teacher training was unable to advance the teacher’s understanding beyond just the basic rationale and curriculum outline for CBC. The challenges the teachers faced in implementing CBC are similar to other research findings. Researchers had found that the lack of quality professional development hindered teachers' understanding and implementation of CBC content and learning strategies (Sifuna & Obonya, 2019) which was still observed in this study.

**The second objective sought to answer the research question, *how were resources made available for use in teaching and learning?***

**Table 2. Availability of resources to support curriculum implementation**

Grade	Research question	<p><i>“How were resources made available for use in teaching and learning?”</i></p> <p><b>Teachers’ voices</b></p>
3	<b>Challenges and Issues</b>	<p><i>“There are no grade 3 learning materials for learners for all learning areas in the rationalized curriculum. The old ones that we use do not correlate with the curriculum designs’</i></p> <p><i>“These day of CBCs, we teachers have to think and work very hard to access and create learning resources. We use knowledge from the PRIEDE training of 2013.”</i></p>



7,8,9	<b>Challenges and Issues</b>	<i>“The main problem is the internet. The school provides one movable internet gadget, which, when one teacher takes it to class, others have to use own internet data.”</i>
3	<b>Teacher and school initiative</b>  <b>Teacher instructional self-efficacy improved</b>	<i>“I downloaded the curriculum design from the KICD website using my smartphone, interacted with it, and made my own interpretation. I then prepared schemes of work from the designs, and then I drew from the schemes lesson plans. I taught using methods that engage learners in their own learning, and we all enjoyed the lessons.”</i>  <i>‘The headteacher provides internet. We have formed a WhatsApp group of teachers to support one another’.</i>
7,8,9	<b>Teacher and school initiative</b>  <b>Teacher instructional self-efficacy improved</b>	<i>“We work with the children to make learning resources. They are always engaged in class, doing little things that help them learn. There are other resources that we download and use with children for learning and send soft copies to their parents to print. We consult one another as teachers, work together, and prepare teaching resource’s</i>  <i>“Teachers must have their own smartphone and data to use for teaching. The school provides wifi, but we are too many to be served effectively. We still have to use our own bundles.” (Junior Secondary Teacher) The principal provides internet-wifi, printing of teaching materials for us teachers, but not learners, but it is not adequate, we still use our own money to print teaching resources’</i>  <i>“The school computers are inadequate. Teachers have to use own smartphones for teaching and learning.”</i>



	<b>Emerging themes</b>	Access to Resources,
	<b>Attributes</b>	Lack of resources, misaligned with the new CBC curriculum, adequate textbooks for Junior Secondary- Government support. Teacher Efficacy- work hard to access and create- use professional resources, Technology used to access CBC materials Teacher Efficacy and innovativeness in CBC outcome: engaged learners and learning was enjoyable, Headteacher support with ITC infrastructure, Use of Technology to build professional learning communities, CBC student work used to provide access to material, Share curriculum among peers- supportive professional learning community, Principal supports, Technology access to CBC materials, Lack of infrastructure for ITC, teacher Efficacy- Financial burden on teachers

Table 2 provides findings on how teachers were able to access resources to implement the CBC curriculum. Teachers own initiative made utilization of technology to access materials and develop professional learning communities possible. Challenges were revealed too: lack of resources, poor ITC infrastructure and misalignment of resources between 8-4-4 and CBC negatively impacted teachers’ ability to implement CBC. Though teachers had access to textbooks, they expressed frustration because textbooks didn’t align with the CBC standards and core curriculum. The Ministry of Education provided textbooks to the school with a ratio of 1:2 per learner. However, as changes were made to the curriculum to consolidate several of the subject areas, textbooks failed to align with the new, rationalized curriculum. Access to hard copies of curriculum designs were challenge to teachers during curriculum organization and lesson planning.



The use of technology proved integral in teachers' ability to access and plan instruction. Teachers stated that principals supported their access to digital resources by providing internet and copying teaching materials for the classroom teaching and homework. According to Kubai (2023), principals offer models on how to use technology and ensure that teachers have access to all learning materials necessary for teaching and learning. Participants noted inadequate school computers, internet, and enough bandwidth created a burden for teachers when accessing technology. Teachers used their smartphones and data to access online resources, which created a financial burden. Technology allowed teachers to develop professional learning communities through the use of WhatsApp groups to share resources and lesson plan ideas. Teachers used WhatsApp to communicate and share resources with parents to support student learning and aid parents with homework. Interestingly, teachers reported that the lack of teaching resources provided opportunities for greater student involvement. Teachers collaborated with their students and parents to develop learning materials that support student learning.

### Parental involvement in their children's learning

The third research question sought to answer the research question, *“What ways were parents/ guardians involved in their children's learning*

**Table 3.** *Parent's involvement in children's learning*

<b>Grade</b>	<b>Research question</b>	<i>“In what ways were parents/ guardians involved in their children's learning</i>
		<b>Teachers' voices</b>
<b>3</b>	<b>Challenges and Issues</b>	<p><i>“Parents provide minimal support in their children's learning beyond feeding them and bringing them to school’</i></p> <p><i>“Parents say they are too busy working for children's upkeep to be able to help with homework’</i></p>



		<i>“Parents feel homework is time-consuming, and they are performing the teacher’s work</i>
7,8,9	<b>Challenges and Issues</b>	<p><i>“Most parents are very supportive of their children's learning.”</i></p> <p><i>“All children complete the assignment and get other help when we request for it.”</i></p> <p><i>“We do not have great challenges with parental support of the children's learning, but once in a while, some parents claim they do not have money to print the assignment. Others do not have enough time to help children; we counsel them and explain the expectations of CBC, and finally, all children do their homework. And all children are supported at home.”</i></p>
3	<b>Teacher and school initiative Teacher self-efficacy to improved</b>	<p><i>“School holds meetings with parents and sensitizes them on the demands of the new curriculum and the benefits to be accrued in successful implementation.”</i></p> <p><i>“We formed a WhatsApp group for parents to communicate about disturbing issues and provide counseling on children's academic support.”</i></p>
7,8,9	<b>Teacher and school initiative Teacher self-efficacy to improved</b>	<i>“We have formed a teacher-parent WhatsApp group for teacher-parent communication. They have smartphones. They help children with assignments. Parents have very positive attitudes towards their children's learning.”</i>



		<i>There are other resources that I download and use with children for learning. I sent a soft copy to the parents. They print out their work, and learners do their homework and bring it back to school.</i>
	<b>Emerging themes</b>	Parent Involvement: Lack of Support, Parent Involvement: Support,
	<b>Attributes</b>	Support: ensure children complete tasks, parent/teacher relationship is positive, open communication, and follow through Lack of support- money constraints, time, lack of understanding of the CBC changing role of the parent., Technology supports parent/teacher relationships and communication, Parent access to technology, WhatsApp parents and teachers’ groups, and information about academic and behavior needs, Parent meeting informs parents about curriculum and expectations, providing materials for parents to use at home

A significant difference between CBC and the 8-4-4 system is the role of parents as key stakeholders in their child’s education. Parents support CBC by creating a home environment that fosters learning through guidance, support, and materials for completing homework (Amunga, Were & Ashioya, 2020; KISC, 2019). In Table 3, responses showed the challenges teachers face when creating a positive home and school partnership. Parent participation was not uniform across early primary grades and junior secondary school. Junior secondary teachers reported good parent support. Most parents were supportive of their child’s learning and were willing to offer homework support and provide extra support if teachers requested help. Perhaps parents in the upper grades recognized their role in their child’s learning to ensure success. In the primary grades, parents relied on the teacher and school to deliver educational supports. Parents were reluctant to offer help, citing a lack of time, funds, teaching resources, and general know-how. Parents stated that it was not their responsibility. To some degree, the lack of support



stemmed from the school's failure to adequately educate parents about the new CBC expectations, which emphasize increased parental involvement. Teachers noted that parent training on specific learning strategies could use at home improved parents' attitude and willingness to act as a co-educator in their child's learning.

Parent involvement was improved through the use of technology. Teachers formed parent-teacher networks through WhatsApp to provide communication and resources to support parents. Teachers found that the online parent-teacher network improved parents' attitudes about their child's learning and willingness to provide support at home. Teachers found an increase in returned homework and better preparedness for classroom learning because of parent support.

### *Determining learning*

The study sought to investigate the research question 4 *“How was learning determined?”*

*The findings were as presented in Table 4*

**Table 4. Determining learning**

<i>grade</i>	<i>Research question</i>	<i>How was learning determined?</i>
		<i>Teachers' voices</i>
<b>3</b>	<b>Challenges and Issues</b>	<p><i>“We assess learners using classroom observation, individual written tests, and group work. Questioning and class presentations by the learners. We also use rubrics as the type of assessment allows.”</i></p> <p><i>“Assessment is not in line with the CBC curriculum design. It reflects the 8-4-4 assessment, which tested knowledge. We rely on our own creativity to align the designs and use learner-centered teaching methods.”</i></p>



7,8,9	<b>Challenges and Issues</b>	<p><i>“We are not yet well-grounded in rubric assessment. We have not seen much change in assessment in the national examination from the 8-4-4 mode of assessment.”</i></p> <p><i>“We were guided on assessment, but the assessment presented to us for use with students was not in line with the CBC curriculum design. It reflects the 8-4-4 curriculum assessment.”</i></p> <p><i>“The grading tool for grade 6 learners is not clear.”</i></p>
7,8,9	<b>Strategies to address challenges</b>	<p><i>“We assess learners in the course of teaching through questions and answers, observation, presentations by learners, group work, and written tests in the classroom. Course books contain assessments. We give mid-term and end-of-term tests.”</i></p>
	<b>Emerging themes</b>	<p>Assessments in CBC emphasize formative and summative assessments, Lack of training on types of assessments and specific ways to use new assessments to monitor student learning, misalignment between classroom assessments and national CBC assessment, Improved understanding of CBC Assessments, Confusion about CBC assessment tools, Misalignment and tension between the 8-4-4 assessment system and the new CBC formative and summative assessment system</p> <p>Teacher innovation and self-efficacy to improve instruction</p>
	<b>Attributes</b>	Assessment Tools

A competency-based curriculum requires teachers to assess students differently. The role of assessment is to evaluate the learner's ability to demonstrate mastery of specific knowledge and skills through practical, real-world application. The focus is on what the learner can do with the



information they know rather than on lesson content (Mwirigi, S. 2024). Participants' responses, as shown in Table 4, showed significant issues with their understanding and use of the CBC formative and summative assessment system. Teachers designed and implemented formative assessments to evaluate the learners' knowledge of classroom work. Formative assessments aligned with curriculum designs and reflected learner-centered methods. Teachers designed assessment tools that included the use of guided questions and answers before, during, and after a lesson, student observation, presentations by learners, group work, rubrics, and written tests. Teachers expressed concerns about the CBC assessment system and the 8-4-4 system. Teachers felt summative assessments designed to measure CBC competencies reflected old methods for testing 8-4-4 content knowledge. There was tension between the old and new assessment systems. Teachers felt further training in CBC assessments, especially rubrics, was necessary to improve student learning and the use of data to support instruction.

## **Teaching learning strategies**

Classroom observations examined the following research question: R:5 What teaching and learning approaches are employed to ensure learning takes place? Teachers were observed during their teaching lesson: grade 3 English Language activities, grade 7 Kiswahili, grade 8 social studies, and grade 9 home sciences. Observations took 35 for grade 3 and 40 minutes for grades 7,8 and 9. The research question was investigated using observation schedule. The classrooms were congested with 80-85 learners in each class in groups of 4 making 21 groups with one group with, 5 children.

In grade 3 there were 80 students sitting in groups of 4 learners. The teacher was observed teaching English language activities. Flipped classroom was used. Learners were given stories to be read to them by parents at home the previous day and during class they were telling one another stories and the teacher was going round listening and making notes. Then they were asked individually to tell the story to class. In grade 7, there were 84 learners and a Kiswahili



lesson was observed. All learners were engaged in learning. Think- pair -share was used at lesson introduction to review the previous lesson and to link the lesson to learners' experience; then the teachers' used role plays with learners to demonstrate use of different tenses, where the learners would carry out action to indicate past and present tense use in Kiswahili language. The teacher facilitated learners to generate sentences in the targeted tense for learning. He used questioning where probing learners to think deeper, try again and get it right. In grade 8 social studies lesson was observed where the teacher was teaching relationships to a class of 85 students.

The teacher employed think- pair -share, class discussion, demonstration, role play storytelling, questioning with probing for deeper explanation. The teacher guided learners to treat each other in different ways. Then learners were asked to describe what they saw, heard and how they felt at different times. A story was given and learners described the relationship between the characters in the stories, categorized the relationships as good and bad, then discussed how people sustain good relationship. The lesson was interesting, all learners were actively learning happily. In grade 9, a home Science lesson was observed. The learners in groups of four seated in 21 tables were carrying out a project on table setting. The children set table and the teacher went round the groups listening to learners explain why they set the table the way they did and the use of different items on the table. The learners impressively helped one another in turns and answered the questions asked.

## **Conclusion**

The study revealed that teachers amidst challenges in curriculum implementation came up with strategies to address the challenges to address and keep teaching and learning going on using learner- centered strategies. When the teacher retooling was delayed, the teachers reflected on the one-time CEMESTEA training and applied the skills to use learner-centred approaches such as think- pair -share, flipped classroom and role play. They formed learning communities of



practice linked together by WhatsApp to support each other and where they were not sure of assessment, they conduct formative assessment in class using questioning and consulted those trained and the trainers. Technology for teaching in class was not used during the observation.

It was also clear that CBC curriculum implementation is faced with many challenges even after the Report of Presidential Working Party on Education and Reforms of 2023 and rationalization of the curriculum designs and teacher retooling. The challenges cover all the critical areas of curriculum implementation: teacher preparation, resources for curriculum implementation, classroom teaching strategies and assessment procedures.

## **Recommendations**

The following recommendations based on the research questions and findings from the study outline actionable steps for schools, teachers, and parents to improve CBC implementation.

### **Build Capacity of School Principals, Teachers, and Parents**

- Improve teacher training to reflect CBC classroom practices and assessment: Training workshops should employ constructivist principles, instead of passive lecture-type presentations, to model specific teaching and assessment strategies for teachers to use in their classroom. Teachers need to learn by doing to construct their understanding of child-centered learning. Teachers and principals versed in CBC implementation should evaluate and improve workshop topics to ensure accuracy and relevancy. Teacher training should be tailored to the teacher's knowledge and skills in CBC, offering greater depth and models for improving instruction that extend beyond the basic concepts and rationale underlying CBC.
- Encourage and empower parents by providing ongoing parent workshops that explain their roles and responsibilities and what, how, and why of the competency-based



education structure (2-6-3-3) system of education. Prepare them to become co-teachers in their child's learning

- Develop school principals' understanding of their role in supporting the implementation of the CBC curriculum in the overall school-wide instructional program. Principals must attend retooling workshops to build their knowledge of the learning outcomes, teaching and learning methods, and the assessment systems, both formative and summative, of CBC to get a deep understanding of CBC. Principals to:
  - a. Supervise the interpretation and implementation of CBC by observing and mentoring, and providing feedback to teachers as they plan, implement, and facilitate learning experiences.
  - b. Conduct a needs assessment of school resources and infrastructure to evaluate the challenges and supports associated with the implementation of CBC. The evaluation criteria should encompass all stakeholders, including teachers and parents, and address key areas such as teacher and parent training, access to materials at school and home, timetables, and personnel utilization.
  - c. Ensure that teachers have the necessary resources in hard and soft copy to aid in teaching CBC (curriculum designs, schemes of work, lesson plans, textbooks, teachers' guides, online resources, specifically Open Education Resources from KICD).
  - d. Provide access to the internet to aid in accessing online resources for teachers and parents to use at school and home; and to data for open parent-teacher communication.

## **Providing Access to Resources**

### **Technology Support**

- Create a clearinghouse of online resources for teachers to use in lesson planning and for content delivery in the classroom, and assessment tools.



- Provide training and access to Open Education Resources from the KICD.  
Provide teacher training on specific ways to enable integration of technology into the classroom teaching and learning and gain a deeper understanding of specific pedagogical uses of technology in the teaching, learning, and assessment of CBC.

## **Learning Resources Support**

- Provide textbooks (ratio of 1:2) for each subject to support student learning.
- Provide manipulatives and other materials to support constructivist teaching practices- hands-on learning,

## **Developing Professional and Parent Learning Communities**

- Create and promote professional and community learning and develop a community support network where parents can communicate with teachers and each other to improve home support and student learning through WhatsApp groups and face-to face
- Identify exemplary schools and teachers who successfully implement CBC methods of teaching to act as models for ways to improve instructional practices. Provide time for teachers to visit such schools, observe, and share knowledge and resources to enhance instructional practices. Benchmarking provides opportunities to engage in peer-learning groups and to establish professional learning communities.

## **Developing Ownership of the Learning Process**

- Allow teachers to be creative and find innovative solutions to the challenges of implementing CBC. Encouraging teachers to take ownership of the teaching and learning process by valuing teacher agency and self-efficacy. Encouraging active participation during lessons, creating engaging learning materials for the classroom, and participating in peer learning groups to foster a community of learners. Encourage learners to take responsibility for their development of the seven core competencies: communication and



collaboration; self-efficacy, critical thinking and problem solving; creativity and imagination, citizenship, digital literacy; and learning to learn.

## **Recommendation for further research.**

- More comprehensive similar research could be conducted and interview more teachers across multiple grade levels in both public and private schools and reveal other themes associated with the support and challenges of implementing CBC into the classroom.



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