

# The Effectiveness of the Competence-based Curriculum (CBC) Adoption and Implementation in Primary and Secondary Schools in East African Community (EAC) Countries

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This study sought to investigate the effectiveness of implementation of competence-based curriculum in member countries of the East African Community. Specifically answers were sought to the following evaluation questions. 1.To what extent has CBC been appropriate for schools in East Africa? 2.To what extent has CBC been effectively implemented in schools in East African community countries? 3.What are the attitudes of teachers and other key stakeholders towards CBC? 4.What are teachers' working conditions and challenges in relation to CBC? 5.To what extent has implementation of CBC improved the quality of education in East African countries? 6.What interventions should be developed to improve effectiveness of CBC in East African countries? Ground theory research design was used. Documentary analysis was the strategy used in this evaluation study. Data were obtained from documents on CBC, journal articles, newspaper articles and evaluation reports. The following are the summary of the findings in the study: 1.CBC is appropriate and should be encouraged in the East African Community Schools. 2.CBC has not been effectively implemented in the four countries where the data were found. 3.Teachers are overloaded as there are few teachers to meet the requirements of CBC. 4.There was no data that links learning environment with introduction of CBC. 5.Teachers have negative attitudes towards CBC. 6.It is not possible to adequately assess what has been accomplished as a result of CBC adoption by East African countries without field work. 7.Overall, the evaluation team concludes that competence-based curriculum has not been effectively implemented in East Africa. On the basis of the findings and conclusions of this study, the following recommendations are made: a)Governments should allocate adequate funds to improve the quality of education in their countries. b)Governments should establish initiative to offer in-service training for teachers and head teachers to learn how to use computers, online and multimedia techniques. c)The government of Uganda should make Kiswahili, ICT and other practical subjects compulsory at all levels of the school system and d)Ministries of education and teachers unions should jointly develop national initiatives with the aim of strengthening qualifications of teachers of Kiswahili, foreign languages and practical skills subjects.

*Keywords:* Competency-based curriculum, effectiveness, adoption, implementation

## Overview of the Competence-Based Curriculum Model

Competence-based curriculum is a curriculum development approach that emphasises the development of the ability of the student to perform a set of related tasks with a high degree of skills. Nordin and Sundberg (2020) stated,

Research on competence-based curriculum shows that organisations adopt different vocabularies with some speaking of competencies and others of skills and that there are no standard definitions of the sets of knowledge and skills induced by the twenty-first century competence-based curricula. Instead, there are different competing ideas on what terms to use, what frameworks to relate to and how to manage these terms and

frameworks discursively within national curriculum-making. National policymakers thus have to navigate a highly complex discursive context. (p.27).

According to Voogt and Roblin 2012 quoted in Nordin and Sundberg (2020, p.27),

Twenty-first century competencies in relation to national curricula frameworks could be understood. In any of the following ways:

a) As more symbolically added to the already existing curriculum as new subjects or as new content within traditional subjects (competence-added curriculum).

b) As integrated ad hoc or more systematically as cross-curricular competencies that both underpin school subjects and place emphasis on the acquisition of wider key competences. (Competence-integrated curriculum) or

c) As the main design principles for a new curriculum in which the traditional structure of school subjects is regarded as learning organisations (competence-transformed curriculum).

### Introduction

There is no generally accepted definition of competence-based curriculum (CBC). The concept of CBC has different meanings in different countries and even within some countries experts do not agree on what CBC is. This section presents a description of CBC as it is conceived in different contexts and how it is implemented in the East African Countries being studied.

**Definition of CBC.** According to Brandt and Tyler (2011), the concept of CBC is especially useful in vocational education where a particular competency can be broken down through task analysis into its components. According to Mutarabukwa (2007),

The main objective of CBC is to equip students with different educational attainments to acquire agreed standards of skills appropriate to jobs available and provide them a basis for progression through further learning. He adds that CBC is seen by many in political and educational circles as a tool to create a workforce capable of underpinning the growing economy.

Spady (1978) and other advocates of performance-based curriculum point out that,

Competency involves “capacities” such as the ability to read and calculate; rather it should refer to application of school-learned skills in situations outside the school. Competence-based training started in the United States of America (USA) as a vocational training model. In Europe, the development of CBC as training curriculum in the United Kingdom (UK) can be traced to a 1981 document called a New Training Initiative. The document specified two goals for the reorganisation of training in the UK. These are offering work-based training to all young people aged 18 years and above and secondly, widespread training in different trades to enable vocational training institution graduates to have wide chances of gaining employment (Franklin, 1997).

Bristow and Patrick (2014) observed that,

The CBC concept moved to western countries due to the economic recession caused by the widespread unemployment among young people in the United States and the concern about low student achievement and poor quality of teacher training which promoted a need to structure the outcome learning in a manner that will encourage teachers to express their teaching objectives in terms of observable student behaviours. The main criticism was the education system, which was blamed for school graduates’ low attainment of necessary skills. This has seen commendable progress in the American education system.

The model is normally used in vocational and technical training institutions and is generally considered. Brandt and Tyler. (2011, p.130) when they said:

Competence-based curriculum concept is especially useful in vocational education where a particular competency can be broken down through task analysis into component skill.

Review of literature has identified the following characteristics of competence-based curriculum.

1. It is politically and bureaucratically defined.
2. Skills to be trained at a particular place are determined by the labour market.
3. Teachers teach by demonstrating and students learn by doing.
4. The curriculum is designed to reflect the needs of a trainee, labour market and the community (Mutarabukwa, 2007).

According to Hojgaard and Soiberg (2019),

Conceptualisation of politically ...Competence-based curriculum is partly due to the initiation of what has since been called the Bologna process, aimed at making transfer of educational merits between countries of the EU easier (European Ministry of Education, 1999). To accomplish this, a unified description of educational standards was needed and it was decided to describe these standards in terms of competences (p.51).

This is a possible reason why the East African Community recommended the adoption of competence-based curriculum in member countries. They have also stated as follows:

Alongside this political process, there has also been theoretical and practical development of competencies as an educational concept. One of the most significant developments was the appointment of a workshop called Description and Selection of Competences (DeSeCo). In their final report, they formulated a well-conceived and holistic definition of the term and presented their recommendations for “key competencies for the good life and the well-functioning society” (Rychen & Salganik, 2003).

In this model, students are expected to have competencies in the subjects they study such as Mathematical competencies, Kiswahili competencies and Physics competencies. They followed the approach of subject specific description of competencies to curriculum development as opposed to the model of developing skills for employment and self-employment.

### Subject Matter Area

Mathematical competencies for example, include the following:

1. Maths thinking competence.
2. Maths reasoning competence.
3. Maths communication competence.

Competence-based curriculum (CBC) has become an internationally important concept in recent decades. In the past 1-3 decades many countries including member countries of the East African Community have adopted CBC framework as important organisations such as the United Nations Educational, Scientific and Cultural Organisation (UNESCO), United Nations Children Emergency Fund (UNICEF), the European Union (EU), the Organisation for Economic Co-operation and Development (OECD) and the East African Community (EAC) have consistently argued that it is the best curriculum framework for schools and tertiary institutions. This framework has affected way in which curriculum is developed and put into effect in classrooms and how students are assessed. A review of literature on competence-based curriculum shows that national contexts matter for the way CBC is conceptualised.

Many countries such as Sweden, Finland, Norway, Canada, Indonesia, South Africa, New Zealand, Germany, Netherlands, France, Australia, Hong Kong, and Mexico have developed their own competency frameworks which acknowledge the needs of the local learners and society. However according to Borden and Masters (1993),

Competence Based Education and Training has 6 principles which are as follows:

1. Focus on outcomes referred to as competencies: They explain that competency based education is a way of approaching vocational education and training that places primary emphasis on what a person can do (the outcome) rather than the means by which the competencies were obtained.
2. Greater workplace relevance: They say that there is a commonly expressed belief that institution-based courses too often emphasise theoretical or book knowledge at the expense of application of knowledge to perform practical tasks and to fulfil workplace roles. Tuxworth (1989) describes concerns that led to the adoption of competency-based approaches to education in the USA in the 1970s as follows: Vo-

ational education curriculum were usually designed by teachers for institution based education, often placing more emphasis on book knowledge than on direct knowledge of practice. There was persistent dissatisfaction in the USA industry with the relevance of college based courses. (Tuxworth 1989, pg 16).

3. Outcomes as observable competencies: Rather than designing the curriculum to meet assumed needs, representative occupational bodies identify occupational standards which are clear and precise statements which describe what effective performance is in distinct occupational areas. These standards are then used to develop vocational qualifications and assessments which underpins them.

4. Assessment as judgements of competence: Since competencies are expressed in precise observable terms, assessment becomes a process of establishing whether or not an individual is able to demonstrate each of the defined competencies. This reflects another fundamental intention of competence-based education and training. To shift the basis of assessment from emphasis on establishing the candidates knowledge to an emphasis on establishing a person's ability to perform a specific work place task.

5. Improved skill recognition: It facilitates recognition of competence independence of where that competence is acquired. The intention is to distinguish assessment and certification from courses and teaching and to remove eligibility for assessment, thereby opening up assessment to those involved in informal courses.

6. Improved articulation and credit transfer: Competence Based Education and Training is seen as a way of improving opportunities for career progression and providing adequate flexibility in career pathways. One can move within and between careers with ease.

However according to Weddel (2006),

CBA has different stages of pedagogy as follows: First, an assessment of the learners needs. Second a selection of the competencies that should be specific and stated in measurable behaviours. Third, determination of the target instruction, the content is based on learners goals i.e. competencies. Last but not least evaluation of the competency, learners continue to learn until mastery of the competency. Assessment should be criterion-referenced; each competency must

have clear performance criteria and learners need to be assessed on how successful they are in performing tasks, not how well they know about language.

### **Competence-Based Curriculum in East African Community Countries**

In the past two decades, due to pressure from powerful international agencies such as UNICEF, UNESCO and the World Bank as well as the East African Community; Tanzania, Rwanda, Kenya and Uganda have adopted competence-based curriculum in their basic education as a response to the aligning of the school curriculum to 21st century skills. The East African Community Common Market Protocol (EAC, 2007) signed by the five partner states required free movement of goods and labour. This meant that education had to play a role in promoting this movement of labour. This created a framework on harmonization of curricula, structure and examinations in the EAC (EAC, 2012).

The standards and competencies require that all partner states reform their curricula, structure and examination systems to align them to the EAC framework. Competence-based approach was introduced in Tanzania in 2005, Rwanda in 2015, Kenya in 2017 and Uganda in 2021. Proponents of competence-based curriculum have often given the following three advantages of using competence-based curriculum approach in basic education.

First, they argue that competence-based curriculum equips pupils with skills for self reliance which would be difficult to achieve in the outcomes based curriculum approach. Secondly, it makes it possible for pupils to select the career paths. Thirdly, as a result of studying pre-vocational subjects in primary and secondary schools, students are adequately prepared to undergo technical and vocational training after school.

### **Questions on CBC**

However some scholars have suggested that CBC does not promote education and learning and that it stifles the love for further education and focuses more on promotion of vocational skills. Education is the process of developing desirable knowledge, skills, values and attitudes.

According to Nacino Brown, Oke and Brown (1992),

Education implies that a person has achieved or will eventually achieve a state of mind characterised by a mastery of and a care for worthwhile things viewed in some kind of cognitive perspective. A trained or skilled man is not necessarily educated. Trained suggests the development of a competence in a limited skill or mode of thought, whereas educated suggests a linkage with a wider system of beliefs.

Teaching someone to type, ride a bicycle, weld metal or kick football with purely vocational or economic ends in view, is not educating. To educate implies giving people a wider cognitive perspective so that they develop breadth and depth in knowledge and understanding. (p.4).

Review of competence-based curriculum of East African Community countries shows that contrary to consistent assertions by some top Ministry of Education officials, particularly in Kenya, that CBC puts a lot of emphasis on skills and competencies, not content, competence-based frameworks in Tanzania, Rwanda, Kenya and Uganda emphasise the following characteristics:

1. They are multidimensional (i.e. they include knowledge, skills and attitudes and,
2. They are associated with high level cognitive abilities. Competencies include ICT literacy, creativity, critical thinking, innovativeness, problem solving, citizenship and productivity.

### **Purpose of the Evaluation**

Current policy makers in East African Community countries, like earlier ones, are driven by the powerful urge to provide quality education to children in their countries. However, they face many challenges. These challenges include:

1. Lack of funds
2. Pressure from international agencies and donor countries on them, to carry out specific education reforms.
3. Lack of adequate resources including teachers

Increased recognition of these challenges and their possible long-term negative consequences have gradually forced more consideration by educators, teachers and their trade unions of how to improve the quality of school education in East Africa. This independent summative evaluation was designed to address two interrelated questions: What is known to date about the effectiveness of competency-based curriculum in schools in East African Community countries and what strategies can be employed to improve the quality of education in East African Community countries through CBC?

The present study seeks to critically analyse the implementation of CBC in schools in order to provide guidance to governments on appropriate strategies to improve the quality of school education in their countries.

### **Research Questions**

The study was guided by the following research questions:

1. To what extent is CBC appropriate for schools in East Africa?
2. To what extent has CBC been effectively implemented in schools in East African Community countries?
3. What are teachers working conditions, challenges in relation to CBC implementation?

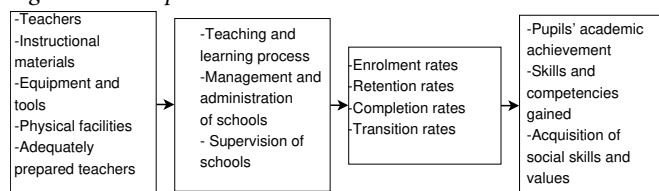
4. To what extent has implementation of CBC improved the quality of education in East African countries?

5. What intervention strategies should be developed to improve effectiveness of CBC in East African countries?

### Conceptual Framework

The quality of school education is determined by the quality of inputs and processes which in turn results in quality outputs and outcomes as illustrated in the Basic Model of Quality of Education in Figure 1.

Figure 1. Conceptual Framework



**Inputs** In the context of implementation of CBC curriculum in schools, inputs include teachers, syllabuses, textbooks and other instructional materials, equipment and tools, physical facilities such as classrooms, desks, teaching aids, time available for learning and preparedness of teachers to implement the curriculum.

**Processes** Effective implementation of the school curriculum may also be attributed to teaching and learning processes, management and administration of schools and supervision of schools.

**Outputs** Education outputs include: rates of enrolment, retention, completion and transition.

**Outcomes** In the context of CBC, outcomes include pupils academic achievements, skills and competencies gained and acquisition of social skills and values such as interpersonal effectiveness and ethical responsibility.

### Evaluation Model

This study used the context, input, process and product (CIPP) evaluation model proposed by Daniel Stufflebeam (1971).

### Significance of the Study

Teachers unions in East African countries are actively involved in educational and professional issues. Since the adoption of CBC framework by member countries of the East African Community and FEATU has not conducted a study on the implementation of CBC. This study will identify gaps that need to be filled by further research to make the CBC effective in the African setting. It can also suggest modifications of the whole programme to fit the African environment. The study

was also conducted for regional and national evidence based advocacy conducted by FEATU and its member organisations.

### Scope and Delimitations of the Study

This study was conducted in three East African Community countries that have implemented CBC only. These are Kenya, Tanzania and Rwanda. Consequently, the findings of the study do not apply to Uganda and Burundi.

### Limitations of the Study

Finally, this study used desktop approach. There was no fieldwork. According to Patton (2012),

Fieldwork is the central activity of qualitative inquiry. Going to the field means having direct and personal contact with people under study in their own environments – getting close to the people and situations being studied to personally understand the realities and minutiae of daily life. (p.48).

### Methodology

**Introduction.** This section provides a description of the evaluation procedures that will be used to address the research questions. Research methods are presented under the following sub-headings: research design, description of the sample and sampling procedures, description of research instruments, description of data collection procedures and description of data analysis procedures.

### Evaluation Design

Decisions on research design are normally influenced by the purpose of the study, research questions and availability of resources. The appropriate design for effectiveness studies is mixed methods design consisting of experimental or quasi-experimental design and a qualitative design such as grounded theory. Since this study has limited financial resources and does not include field work, a grounded theory design is used.

### Target Population and Sample

Researchers reviewed curriculum documents, research reports, journal articles and evaluation reports. Information from all these sources was integrated to produce a report.

### Research Instrument

A content analysis guide was developed and used to analyse documents to identify core consistencies. The guide searched documents for recurring categories, themes and patterns through inductive analysis to revise the instrument before piloting testing it.

### **Validity of Research Instruments Results**

Content validity of the content analysis guide was assured by presenting it to three experts in educational research to determine its appropriateness. The suggestions made by the experts were used to revise the instrument before pilot testing it.

### **Pre-testing the Instruments**

Content analysis schedules were pre-tested for workability, relevance and phrasing of questions.

### **Reliability of Instruments Results**

Reliability of instruments results was determined using test-retest method.

### **Data Collection**

Desktop review involved review of journal articles on CBC in the four countries drawn from Educational Resources Information Centre (ERIC) and evaluation reports. The desktop also involved interrogation of international education systems policies, strategies and best practice reports on how to improve the quality of education.

### **Data Analysis**

Data were analysed using categories, themes and patterns.

## **Presentation and Discussion of the Findings**

### **Introduction**

This chapter presents, discusses and interprets the findings of the study. The findings of the study are presented according to the following research questions, questions that have guided the study. These are:

1. To what extent is CBC appropriate for schools in East Africa?
2. To what extent has CBC been effectively implemented in schools in East African Community countries?
3. What are the attitudes and key stakeholders towards CBC?
4. What are the teachers' working conditions, challenges in relation to CBC implementation?
5. To what extent has implementation of CBC improved the quality of education in East African countries?
6. What intervention strategies should be developed to improve effectiveness of CBC in East African countries?

### **Extent to which competence-based curriculum is appropriate for primary and secondary schools in East Africa**

The first research question sought to determine the extent to which competence-based curriculum is appropriate for East African Community countries.

**Kenya.** Many experts in curriculum development in Kenya opposed competence-based curriculum for schools. They wrote articles in newspapers advising the government to follow the systematic process of curriculum development, but this fell on deaf ears. This was because many top Ministry of Education officials kept on saying that competence-based curriculum focuses on equipping school children with skills for employment in the formal sector and self-employment, thus helping to address rampant youth unemployment. This means training children below the age of 18 years for employment. Opponents of the old model of CBC such as KNUT and several educators argued that is not the role of the school to train children for employment, but to make them trainable.

Critical analysis of Kenya's competence-based curriculum shows that despite consistent assertions by some top Ministry of Education officials that CBC puts a lot of emphasis on skills and competences, not content, curriculum developers balanced the agenda of international agencies and concerns of local education professionals and adopted what can be defined as competence added curriculum or subject specific competencies based curriculum. The goal of the curriculum is to develop high level cognitive abilities and practical skills. Unlike the previous curriculum which mainly consisted of academic subjects, CBC for primary schools has more than ten subject areas. The previous curriculum had the following subjects: Kiswahili, Mathematics, English, Science, Social Studies, Religious Education and Physical and Health Education. Reviewed studies showed that most participants in the studies found CBC appropriate for Kenya's primary schools.

**Uganda.** Uganda adopted a subject specific competencies model. This is the model used in European countries and Tanzania, Rwanda and Kenya and member countries of the European Union. However, although the curriculum aims at producing a secondary school graduate who has competencies that are required to live in the 21st century, it is possible for a student to complete lower secondary education without studying practical skills subjects such as Agriculture, Information and Communication Technology and Nutrition Food Technology. Furthermore, Kiswahili is not a compulsory subject in senior 3 and 4.

### **Tanzania**

Tanzania revised primary, secondary and teacher education syllabuses to be CBC compliant soon after introducing CBC in 2005. The syllabuses have not just the objectives but competencies that the teacher is supposed to ensure the learner acquires. The syllabuses emphasized learner centred approaches as methods of teaching. For example, the Biology Pedagogy syllabus for a diploma in secondary education clearly stipulates: "The Biology teacher should put more emphasis on the application of learner centred approaches and techniques and collaborate with other internal and external colleagues to improve the teaching and learning of the Biology subject." (Mo-

EVT, 2009).

However in Tanzania, the introduction of the CBC curriculum was not accompanied with a change in the education structure or introduction of new subjects across the board. The review also emphasized learner-centred teaching and learning approaches. In this curriculum reform, the contents of all subjects were modified in order to emphasise the skills, concepts and basic principles required in professional development, self-employment and to prepare for the labour market. (TIE, 2013b). Such competences as the acquisition of multiple life skills, creativity, critical, reflexive and independent thinking, problem solving skills and an ability to adapt to cutting edge technology are examples of the most emphasized issues in curriculum documents such as the secondary education curriculum (MoEVT, 2007b) as well as the teacher education curriculum (cf. MoEVT, 2007a). New subjects and cross-cutting issues were also introduced and emphasised. For example, Information and Communication Technology (ICT), personalities and sports at the primary school level (TIE, 2013b).

**Rwanda.** Rwanda reviewed the curriculum to be CBC compliant in 2015 before introducing CBC in schools in 2016. The Rwanda Education Board came up with a CBC curriculum framework in 2015 that indicates the subjects and competencies to be developed by the children right from pre-primary to upper secondary school levels. For example the framework identifies literacy as one of the most important competencies a student in Rwanda should have. They explain that a literate Rwandan should:

- Read a variety of texts accurately and fast.
- Express ideas, messages and events through writing eligible texts in good handwriting with correctly spelt words.
- Communicate ideas effectively through speaking using correct phonetics of words.
- Listen carefully for understanding and seeking clarification when necessary.

In Rwanda CBC implementation was accompanied with the change in the structure of education to 2-6-3-3-4.

**East Africa.** Content analysis of competency-based curriculum in East African community countries has shown that these countries have adopted what has been described as subject specific competencies model of competence-based curriculum. Instead of focusing on practice-oriented goals as recommended by international organisations they have used a hybrid model that combines development of high level cognitive abilities and development of practical skills. This is commendable. The revised curricula of East African community countries have much in common and all include: ICT literacy, creativity and innovation, critical thinking, problem solving, communication, digital literacy, citizenship and collaboration. Content analysis of research studies on implementation of competence-based curriculum in Tanzania, Rwanda, Kenya and Uganda shows that despite facing many challenges,

the localised competence-based curriculum is largely beneficial for demonetisation to be an option.

### **Extent to which Competence-based Curriculum has been Effectively Implemented to East African Countries**

Available research evidence shows that low learning outcomes in East African countries are not so much the result of the planned curriculum as lack of efficient implementation of the curriculum. Therefore, the second research question was intended to find out the extent to which competence-based curriculum has been effectively implemented in schools in Tanzania, Rwanda, Kenya and Uganda to ensure that students study and actually understand what they study.

**Kenya.** Most studies on effectiveness of implementation of CBC in Kenya showed that CBC has not been effectively implemented because of the following factors:

1. Hurried implementation of CBC. CBC was piloted in 2018 in grades 1, 2 and 3 for few months and implemented in grades 4, 5, 6 and 7 without pilot-testing.
2. Inadequate teacher preparation.
3. Lack of sufficient public participation before national implementation of CBC.
4. Inadequacy of facilities, equipment and materials in primary schools for effective teaching.
5. Teachers lack of knowledge and skills of conducting formative assessment.
6. Teachers lack of ICT skills.
7. Most teachers are not competent in handling practical skills subjects.
8. Curriculum is not effectively utilised or put into effect. Instead of using learner-centred methods, such as co-operative learning and small group discussion, most teachers use teacher centred methods.

In view of the fact that there was no data on implementation of CBC in junior secondary schools in the documents reviews since it was implemented recently, primary data were collected from two schools. Therefore, in interpreting data, caution needs to be exercised with regard to wide variations that may exist at national and county level. CBC may be more effectively implemented in some schools. However, pending more adequate information from fieldwork, we can use, with some appropriate degree of caution, the data obtained from the two schools. Based on the data, CBC has not effectively been implemented in junior secondary schools.

According to the data, implementation of CBC in junior secondary schools faces the following challenges:

1. Lack of enough personnel. Teachers Service Commission should employ more teachers to ensure that teachers are handling their areas of specialisation.
2. Lack of enough learning materials/resources. Textbooks should be published on time and distributed to schools; also Science laboratories to be constructed and equipped on time.

3. Some learning areas to be merged e.g. health education to be into integrated skills, life skills and CRE or alternatively science to be split into two i.e. chemistry, physics and pre-technical. Then biology to be combined with Health Education.

Teachers suggested the following solutions:

1. The Teachers Service Commission should employ more teachers to ensure that teachers handle their areas of specialisation.

2. Textbooks should be published on time and distributed to schools.

3. Science laboratories should be constructed and equipped on time.

4. Some learning areas should merged. For example, Health Science should be made part of Integrated Science. Alternatively Integrated Science should be split into subject areas – Chemistry and Physics and Biology should be combined with Health Education. Pre-technical skills should be part of Chemistry and Physics. Life skills should be combined with Religious Education.

5. Junior secondary should be a stand alone institution for easy management and administration.

6. Content to be reduced to be matched to specific contact hours per term. This is because CBC is activity based and learner centred.

7. Teachers Service Commission should act as an independent body during the recruitment process to ensure that politicians do not influence its decisions. One junior secondary school teacher said that appointments at all levels are based on political influence or bribery.

8. Junior secondary school capitation should be disbursed on time.

**Uganda.** Review of literature on implementation of CBC in schools in Uganda did not come across a single study on effectiveness of implementation of CBC in schools to Uganda. The problem of lack of data in relation to implementation of CBC in ... made it necessary for one researcher to collect primary data from one school in Uganda.

These data are from one senior secondary school in one county. There may be senior secondary schools in the country where CBC has been effectively implemented. The data obtained from one senior secondary school in Uganda shows that competency-based curriculum has not been effectively implemented in Uganda's schools. According to the primary data obtained from the school implementation of CBC in Uganda has the following weaknesses.

1. School principals, deputy principals and other school administrators who are supervisors of teachers cannot effectively supervise teachers because they have not received training on CBC.

2. Schools lack adequate teachers, thus there is a high teacher-pupil ratio. This has made learning heavily centred on rote learning.

3. Very few teachers were sampled and trained.

4. Teachers who were trained on CBC lack appropriate subject specific competencies.

5. Schools lack adequate textbooks. By June 2023, textbooks for senior secondary 3 had not been supplied to schools.

6. Swahili is not a compulsory subject in senior 3 and 4.

## Tanzania

Research from many scholars suggest that syllabuses were revised at the Tanzania Institute of Education (TIE) with limited involvement of teachers and then transported to schools across the country.

Another indication of effectiveness was the availability and training of teachers on CBC. Research evidence shows that primary, secondary and teacher education tutors were trained on CBC. However, the number was not significant. The evidence from the study commission by MoEVT to investigate the causes of the decline of the 2010 national form four examination results shows that there was little or no involvement of other important stakeholders such as teachers and tutors during the new curriculum-making process (MoEVT, 2011). Looking from the point of view of the training of serving teachers and teacher educators in the CBC reform in Tanzania, it appears that very few teachers received orientation on the revised curricula. For instance, the MoEVT (2011) research report on the decline of the 2010 national form four examination results indicates that only 588 secondary school teachers (1.5%) received orientation of the new curricula between the years 2008 and 2011. As a result of this scholars have indicated that many teachers in Tanzania primary, secondary and teacher education institutions do not understand CBC approaches.

Another indication of effectiveness is the availability of teaching and learning resources. Studies have indicated that though the books were revised to be CBC compliant, they are not adequate. Other scholars have cited inadequate laboratories and classrooms.

**Rwanda.** In Rwanda research evidence shows that all education stakeholders including teachers were trained on CBC approaches before implementation. There is no data to tell us the duration of the training and the level of understanding by the teachers on the CBC approaches.

Regarding teaching and learning resources, research evidence is not clear as per the adequacy or inadequacy and therefore there is need for a study to determine this.

**East Africa.** All research studies conducted in the region shows that there are many obstacles that prevent the curriculum from being effectively implemented in schools. It is evident that there are indeed challenges in the implementation of competence-based curriculum in schools which are common in Kenya, Tanzania and Rwanda. Four challenges in particular were identified in this study. The first is the unpreparedness of teachers to effectively implement CBC. Although



East Africa country governments have made efforts in developing capacities of teachers to effectively implement CBC, the findings of research studies have shown that teachers are not adequately prepared to implement CBC. Implementers of CBC and studies have consistently shown that CBC is implemented poorly in East Africa. They show that teachers do not use learner centred approaches in their teaching. The teacher's ability to implement CBC differ from country to country.

The second major challenge is inadequate facilities and equipment. This has been supported by Ouko (2021) who has indicated that a major challenge in Tanzania in the implementation of CBC is inadequate teaching and learning materials and equipment. He says that this is compounded by the inability of the government to employ teachers. The consequence is that there is acute shortage of teachers employed by the government in schools when there are thousands of teachers that are trained but without jobs.

The third common challenge is assessment procedures and evaluation. The fourth challenge is that curriculum is not utilized or put into effect. Instead of using learner-centred methods such as cooperative learning and small group discussion groups, most teachers use teacher centred methods. As a result of these obstacles, CBC has not been effectively implemented in participating countries. For example Komba, K.S. & Mwandaji M. (2015) carried out a study to investigate issues surrounding the implementation of competence-based curriculum in Tanzanian secondary schools. The specific objectives of the study were to examine the teachers' understanding of the objectives of competence-based curriculum; to investigate the teachers' abilities in preparing competence-based lesson plans; to examine whether or not teachers involved students in classroom activities; and to find out whether or not teachers practiced formative students' assessments as per the requirements of competence-based curriculum.

The study was carried out in Mbeya region of Tanzania. The findings indicated that the majority (86%) of the interviewed teachers did not have the proper understanding of the objectives of competence-based curriculum. In addition, the majority (78%) of the reviewed lesson plans did not reflect the qualities of a competence-based lesson plan. Moreover, the involvement of students in classroom activities by teachers who were observed was, in overall, very low. This is something that cuts across all the East African countries.

Another problem facing African countries and not restricted only to the East African countries is that teachers are not being employed. In Kenya alone, there are over 100,000 teachers qualified but not employed. This has implications on the teacher pupil ratio and the burden of teaching large classes with serious consequences on the quality of education offered. The attitude of teachers and other stakeholders are very important in the implementation of any curriculum and CBC is no exception. Success of CBC will be dependent upon the attitude of teachers and key stakeholders in the education sector

towards its implementation.

We reviewed some studies and found out that in general the teachers and other members of the education sector generally had positive attitudes towards it. Most teachers and other stakeholders believed that CBC will deal with wanton unemployment among the youth by encouraging self-employment. This is because in the entire continent of Africa without exception, secondary schools, colleges and universities are producing graduates without knowing where these people will work. Consequently stakeholders in the education sector believe rightly or wrongly that CBC will solve their problems of unemployment. Several research studies and evaluation conducted in Tanzania and Rwanda revealed that teachers and parents had positive attitudes towards CBC. However, there is a need to have further studies on the attitudes of particularly parents and employer's attitudes towards CBC.

### **The Attitudes of Teachers and other Stakeholders on the Introduction of CBC in schools**

The third research question sought to determine the attitudes of teachers and other education stakeholders towards the introduction of CBC. The adoption of competence-based curriculum by member countries of the East African Community is an innovation that requires the support of key education stakeholders such as parents, teachers, pupils and educators. Research evidence has consistently shown that whenever a new curriculum has been introduced in an education system, it runs the risk of attracting limited interest from teachers, if they are not adequately trained to implement it and parents if they are not adequately sensitized on it. Hence it is not effectively implemented. Effective implementation of the school curriculum encompasses teaching competencies, availability of instructional materials and attitude and motivation.

Teachers and pupils attitudes towards the curriculum and motivation make them perform well. No study that was reviewed focused on attitudes of key stakeholders towards introduction of CBC. Few research studies showed that teachers in Tanzania, Rwanda and Kenya have positive attitudes towards the introduction of CBC in their countries. On the other hand a lot of research evidence shows that teachers in Tanzania, Rwanda and Kenya have negative attitudes towards CBC. Evaluation studies in Kenya have shown that due to the heavy demands made on them, parents have negative attitudes towards introduction of CBC. However, there is no significant research on teachers' lack of motivation to implement CBC.

Since review of relevant literature on CBC in East African Community countries indicates that very few studies have examined attitudes by parents, teachers, pupils and other key education stakeholders towards introduction of CBC; field surveys should be conducted in member countries of the East African Community to examine attitudes of key education stakeholders towards CBC.

### **The Teachers' Working Conditions, Challenges in Relation to CBC Implementation**

The fourth research question addressed the teachers' working conditions under competence-based curriculum. CBC requires a learner-centred strategy to ensure that the learners acquire skills and competencies to enable them live productively in their societies. Teachers in eastern African countries have been faced with many challenges arising from implementation of CBC. In order for teachers to perform well, he/she needs a good working environment.

CBC requires a learner centred strategy to ensure that the learners acquire skills and competencies to enable them live productively in their societies. Research evidence shows that both primary and secondary schools in Africa in general and East African schools in particular are over enrolled. This makes it impossible to have a learner-centred teaching approach. Research evidence we obtained indicates that teachers in both primary and secondary schools work under very difficult circumstances as they struggle to implement CBC in Tanzania. They teach large classes and are overloaded. Some scholars have indicated that despite the heavy work load, teachers are not properly remunerated. Tanzania like other African countries has also trained more teachers than she can employ. Despite the heavy work load for the few employed teachers, the government cannot afford to employ more teachers to ease their burden.

Researchers did not get any literature on the prevailing working condition of teachers in Rwanda in the wake of CBC. However in 2020, Rwanda was negotiating with Zimbabwe to get some of their qualified teachers help out in their secondary, primary and TVET as well as universities. This is an indication that there is shortage of qualified teachers. This has implications on the workload of teachers. It would however appear that there is no problem of unemployment of trained teachers in Rwanda. There is a need for empirical study to determine the exact conditions of teachers in Rwanda.

As a result of the implementation of CBC, the teachers have faced various challenges as follows:

- Overworked
- Working extra hours to prepare.
- Overcrowded classrooms.
- They have not been adequately trained to implement CBC.
- They do not have skills on assessment under CBC.

### **Extent to which CBC has Improved the Quality of Education in East African Countries**

The quality of education is affected by many factors which include teacher competence, teachers' job satisfaction, physical facilities, teaching learning resources and teachers' working conditions.

**Kenya.** The competence-based curriculum framework has been embraced by governments around the world. In Kenya CBC is currently implemented in grades 1-7. However, there is a problem as many Kenyans remain sceptical about the quality of education provided in many Kenyan schools. Scholars do not believe that CBC can improve the quality of education in the country.

Research findings on the extent to which CBC has improved the quality of education in schools were contradictory. Pupils following CBC studied more than ten subjects including ICT and other practical skills subjects (pupils following the previous curriculum plus studied six subjects only namely: Kiswahili, English, Mathematics, Science, Social Studies and Religious Education). Many teachers used active learner centred teaching methods and schools had adequate textbooks. High levels of knowledge, competencies and skills are considered by many countries to be the very basic conditions for active citizenship, employment and social cohesion (European Commission, 2000, p.5). However, teachers were not adequately trained to implement CBC, there is a shortage of teachers, teachers do not have skills of conducting formative assessment of pupil's achievement and schools lack adequate equipment and materials for practical skills subjects.

Available data indicate that teachers in Kenya are faced with some challenges in attaining quality delivery of CBC. A major challenge arises from lack of adequate in-service training on CBC. Other challenges are inadequate facilities, equipment and materials for practical subjects, lack of teachers' houses in most primary schools, lack of incentives and poor terms and conditions of service.

**Uganda.** The improvement of the quality of school education in Uganda has a prominent place in the development of a new curriculum framework for lower secondary. Researchers did not get studies to address this question.

**Tanzania.** Researchers did not get any study with data that CBC has improved the quality of education in Tanzania. Since Tanzania has been implementing CBC since 2005 and therefore longer than any East African country, there is a need for this kind of study. Uwezo (several studies) have indicated problems to do with literacy and numeracy among learners in primary schools in East African countries but the studies did not relate to CBC. However, the curriculum currently being implemented in the country is likely to have an impact on equality.

**Rwanda.** Similar scenario obtained in Rwanda where researchers did not find a study linking CBC to improved learning achievement. Studies however indicate that education stakeholders in Rwanda are happy with CBC.

**East Africa.** The world is rapidly shifting from an economy based on labour and industry to one driven by knowledge and innovation. It is well known that East African education and training institutions produce too many young people with outdated skills as a result of low quality education in those

institutions. Viewed narrowly, many interventions in the curriculum implementation process has worked well. However, quality has not. Therefore it can be concluded that CBC has not worked well and therefore has not reached its intended effect. Although academic standards in East African countries are not up to those of developed countries, in this study, the evaluators have decided to use the indicators developed by the European commission to examine the quality of education in East African countries after the implementation of CBC. Three indicators of quality were selected as follows:

- Indicators of attainment: Mathematics, Reading, Science, ICT, Foreign Languages, learning to learn and Civics.
- Indicators of monitoring of education: Evaluation and monitoring of school learning and participation of parents.
- Indicators of resources and structures: Education and training of teachers, participation in pre-primary education, number of students per computer, education expenditure per student.

Practical subjects such as Agriculture, Home Science, Art and Craft were emphasized during the colonial period. They were also emphasized in Tanzania after the introduction of the policy of education for self reliance in 1967 and in Kenya after the implementation of the school curriculum for the 8-4-4 in 1986. The argument was that most students required practical skills for employment in a rural environment either in Agriculture or any type of employment they can create for themselves. These subjects have been revived as important components of CBC as a strategy to equip learners with skills for employment in formal and self employment.

Teaching vernacular languages – there is much variation in the teaching of vernacular languages in schools and their use as a medium of instruction. In Tanzania and Rwanda, Kiswahili and Kinyarwanda are used for instruction in primary schools respectively. In Kenya, mother tongue was used as a medium of instruction in upper primary and secondary school classes. Currently, English is used as a medium of instruction in lower primary classes. This is contrary of the language policy of 1976 and UNESCO guidelines. Kiswahili and English are compulsory subjects in primary and secondary schools. Apart from ICT, this is the curriculum that was pilot-tested in few schools for one year in each class, evaluated and implemented in all primary schools in 1986 and not 1985 as stated in the Basic Education Framework.

### **Intervention Strategies that should be Developed to Improve Effectiveness of CBC in East Africa**

The fifth research question sought to identify intervention strategies that should be developed to improve effectiveness of CBC in East Africa. Several research studies conducted in Tanzania, Rwanda and Kenya on CBC and evaluations of implementation of CBC in Kenya reviewed suggested strategies that should be introduced to improve the effectiveness of CBC. These strategies were synthesised into intervention strategies

that explicitly addressed effective implementation of CBC.

Numerous studies reviewed suggest that CBC has not been effectively implemented in East African community countries. In order to address the challenges facing the implementation of CBC, the following strategies should be used:

**1. Funding.** Many East African Community countries simply do not have the capital and resources to meet the demands of CBC. Evidence in this study has shown that employment of adequately trained teaches, provision of physical resources including ICT devices are central to successful implementation of CBC in schools in East Africa.

In order to address the problem of inadequate, adequately trained teachers, lack of adequate school infrastructure and lack of adequate instructional materials, governments of East African countries should increase budgetary allocation to ministries of education to enable them hire adequate qualified teachers and finance school facilities and teaching and learning materials. Since teacher training is the core of measures designed to improve the quality of education, governments of East African Community countries should establish strong and regular in-service teacher training programmes to help teachers know how to teach CBC.

**2.Training of teachers on CBC.** Reviewed studies show that teachers are not fully prepared for the implementation of CBC. Given the constraints of funding, there are two strategies where teachers can be effective in schools. The first is to train key teachers from each school on CBC and have them conduct school-based in-service teacher training workshops in their schools. Training should focus on subject specific content, use of learner-centred pedagogy, integration of ICT in teaching and learning, teaching of practical skills subjects and assessment and evaluation. They should also sensitize parents on CBC. The second strategy is to adequately train local education officials on CBC to enable them to train teachers, head teachers and other school administrators on CBC.

**3. Parental involvement in their children's learning.** From the data reviewed, it is clear that this issue is quite costly and time consuming for parents and should be revisited.

**4. Integration of ICT in teaching and learning.** Research evidence from the various studies reviewed indicates that most teachers do not know how to integrate ICT in teaching and learning. Integrating ICT in teaching is possible but it requires vast amounts of investment costs and attitudes.

1. East African governments should invest in technology and have experts train teachers on modern technology and infuse it in their classrooms.

2. East African universities and teachers colleges should train teachers on integration of ICT in teaching and learning.

**5. Public participation in curriculum reform process.** According to the research data on CBC in Kenya, many educators, academics and other scholars have negative attitudes towards CBC. This is probably because top Ministry of Education officials conducted curriculum reform without public participation. When implementing curriculum reform, it is

important for the Ministry of Education to involve parents, academics, educators and other key education stakeholders in the curriculum reform process to ensure that they have a positive attitude towards the new curriculum.

**6. Teaching and learning materials.** East African governments should provide adequate instructional resources to schools for instruction. These should include textbooks, ICT tools. Governments should establish strong and regular in-service programmes to help teachers on how to implement CBC.

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Appendix  
 Evaluation Methodology Matrix

<b>Evaluation Question</b>	<b>Type of Data Required</b>	<b>Source of Data</b>	<b>Evaluation Instrument</b>
1. To what extent is CBC appropriate for schools in East Africa?	<ul style="list-style-type: none"> <li>• Data on extent to which CBC meets national goals of education.</li> <li>• Key education stakeholders' views.</li> <li>• Data on international best practices</li> </ul>	Government documents.	Content analysis guide
2. To what extent has CBC been effectively implemented in schools in East Africa?	<ul style="list-style-type: none"> <li>• Whether CBC has been implemented as planned including adequacy of teachers, physical facilities, equipment and tools.</li> </ul>	Students' theses and dissertations.	Content analysis guide
3. What are the attitudes of key stakeholders towards CBC?	<ul style="list-style-type: none"> <li>• Evidence of support/resistance to CBC.</li> <li>• Monitoring and evaluation data.</li> </ul>	Official and unofficial CBC record.	Content analysis guide
4. What are teachers' working conditions, challenges in relation to CBC implementation?		Journal articles	
5. To what extent has implementation of CBC improved the quality of education in East African countries?	<ul style="list-style-type: none"> <li>• Educational achievements and learning outcomes.</li> <li>• Continuous assessment and summative assessment data.</li> </ul>	<ul style="list-style-type: none"> <li>• Financial and budget records.</li> </ul>	Content analysis guide

Evaluation Question	Type of Data Required	Source of Data	Evaluation Instrument
6. What strategies should be used to improve the quality of education in East African countries?	<ul style="list-style-type: none"><li>Monitoring and evaluation data.</li></ul>	<ul style="list-style-type: none"><li>Official and unofficial CBC records.</li><li>Monitoring and evaluation reports</li><li>Journal articles on CBC.</li><li>Evaluation reports</li><li>Annual reports</li><li>Routine records on CBC</li><li>Annual reports</li><li>Records of students test and examination results</li><li>Official documents</li><li>Journal official documents.</li></ul>	