

Competence and Competency Based Learning Curriculum for Greening Sustainable Development in Kenya: Challenges and Panaceas

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Abstract: *The Kenyan government, just like other countries, because of the impact of globalization, it has continued to reform education sector to respond to more emerging issues towards sustainable development. It is on this premise that the introduction of new education system is anchored. However, there is too little which has been done in establishing the link between competency based curriculum and sustainable development and their teething challenges. This paper is purposed to link competency based learning curriculum to sustainable development, while bringing to the fore the challenges the CBC is contenting with from conception to its implementation phase and their possible panaceas. Specifically and chronologically, this reflective paper attempts clarification of key operational terminologies used, link between competencies and sustainable development, rationale for advocacy of the CBC, theoretical underpinnings of CBC, challenges of CBC, conclusions and recommendations. This reflective and theoretical paper significantly contributes to the ongoing debates and reflections on the contribution of competency based curriculum on sustainable development, while addressing the teething challenges undermining the CBC implementation with a view of making it acceptable to all and providing apt strategies towards its successful implementation.*

Key words: Competencies and Sustainable Development, Competence, Curriculum, Challenges, Kenya

1. Introduction

1.1 The concept of sustainable development

In September 2015, the General Assembly comprising of leaders from 193 countries of the world came together to what they called as facing the future and approved the 2030 itinerary for Sustainable Development that comprises of 17 Sustainable Development Goals (SDGs). Structured on the principle of “leaving no one behind”, the new approach stressed on a holistic perspective to attaining sustainable development for all (UNESCO, 2015).

The Sustainable Development Goals are a means to realize a healthier and sustainable future for everyone. They interrogate the universal challenges we encounter, such as those associated to poverty, joblessness, inequity, weather, environmental dilapidation, wealth, and harmony and fairness. The specific goals include; 1) No Poverty, 2) Zero Hunger, 3) Sound Health and Well-being, 4) Quality Education, 5) Gender Equality, 6) Unpolluted Water and

Sanitation, 7) Inexpensive and uncontaminated Energy, 8) Decorous Employment and Economic Growth, 9) Industry, Innovation and Infrastructure, 10) Reducing Inequality, 11) Maintainable Metropolises and Communities, 12) Responsible Consumption and Production, 13) Climate Action, 14) Life Below Water, 15) Life on Land, 16) Harmony, Fairness and Robust Organizations and 17) Partnerships to achieve the Goals (UNESCO, 2015).

1.2 Statement of the problem

The Kenyan government, like other nations, due to the impact of globalization, has continued to reform the education sector to respond to more evolving issues towards sustainable development. It is on this ground that the introduction of Competency Based Curriculum is anchored. Nevertheless, there is too little which has been engaged in determining the connection between CBC and sustainable development and the confounding challenges. This theoretical paper is purposed to relate competency based learning curriculum to sustainable development

while bringing to the fore the challenges the CBC is contenting with and possible panaceas.

1.2 Education and competencies for sustainable development

Education, which enhances sustainable development, is an emerging but vibrant idea that includes a new visualization of education that aims to endow all individuals with competencies to undertake obligation for fashioning a sustainable future. Education shapes the world of tomorrow; it is the most effective means that society owns for mitigating the challenges of the future. Progress increasingly depends upon competency refined cognizance: based on research, creativity, novelty and adaptation. Competent educated minds and predispositions are not only basics in research institutes and laboratories, but also in everyday life. While it is agreeable that education is not in its totality an answer to every challenge, in its widest logic, education is a requisite part of all determinations to envisage and fashion new associations among persons and to enhance reverence for the essentials of the environment (IBE-UNESCO, 2017). Education is the prime instrument of change en route for sustainable development, growing people's capabilities to change their visions for humanity into realism. Education offers technical and scientific abilities, the inspiration, justification, and social backing for trailing and utilizing them. It is on this premise that the society needs to be genuinely worried that much of existing education falls short of this mission. Improving the value and scope of education and redesigning its objectives to take cognizance of the significance of sustainable development should be the country's utmost priorities. In Kenya competency based curriculum is anchored on this premise (RoK, 2012).

Since 1992, an international consensus has been struck that achieving sustainable development is essentially a process of learning. During the UN conferences in the 1990s, women in Beijing (1995), social development in Copenhagen (1995), human rights in Vienna (1993), Small Island developing states in Barbados (1994) population and development in Cairo (1994, and food security in Rome (1996), the vital function of education for development was stressed. In the same way we have learnt to live untenably, we need to learn how to live sustainably (UNESCO, 2015).

The foundation of education for sustainable development is firmly ingrained in the environmental education efforts of such groups as International conservation organizations such as International Union for Conservation of Nature (IUCN) and World Wildlife Fund for Nature (WWF) which are aggressively supporting the incorporation of education into sustainable development at local, national and international levels. Alongside with peace education, citizenship education, universal education, human rights education, development education and multiethnic and

anti-racist education that have all been important (IBE-UNESCO, 2017).

Sustainable development needs dynamic and informed citizens and thoughtful and knowledgeable decision makers able of making the right choices about the intricate and interconnected social, economic, and environmental matters the society is experiencing. To achieve this requires the wider undertaking of social transformation branded as social learning. This encompasses not only explicit education and training programmes but also utilization of legislation and policy as openings for teaching and boosting new methods of individual, communal and corporate behaviour. These underscored precursors for sustainable development requires re-fashioning of education to grip the correct key competencies to achieve it.

Sustainable development is rooted in four symbiotic systems: Economic structures which provide an ongoing means of maintenance (jobs and money) for persons; Social structures which provide means for persons to live in harmony, equitably and with reverence for human rights and dignity ;Biophysical structures which offer the life maintenance structures for all life, human and non-human; and political structures by which power is applied justly and constitutionally to make decisions on how economic and social systems use the biophysical environment (UNESCO,2015).

This all-inclusive view embraces four inter-related ideologies for sustainable living, which include: Conservation to warrant that natural structures can endure to offer life support structures for all living things, in addition to the resources that sustain the economic structures. Secondly, peace and equity to inspire societies to live supportively and in congruence with each other and have their rudimentary wants gratified in a fair and impartial way. Thirdly, appropriate development to guarantee that individuals can support themselves in a long-term way. Incongruous development disregards the connection between the economy and the other structures in the environment and finally egalitarianism to ensure that people have a just and equal say over how social, natural, and economic structures should be managed (UNESCO, 2015).

Linking economic, political, social and environmental matters is a critical facet of sustainable development. Creating such links demands a deeper, more ambitious way of re-orienting education to one that retains a commitment to critical analysis while fostering creativity and innovation. In short, it demands that education be re-oriented to promote a system of ethics and values sensitive to cultural identity, multicultural dialogue, democratic decision-making and the appropriate use and management of natural resources. Such links are what competency based curriculum seeks to realize in Kenya (RoK, 2012).

The potential of education is enormous. Perceived as social learning for sustainability, education can upsurge concern over unsustainable undertakings and upsurge our ability to challenge and inculcate change. Education, not only creates awareness to people, it can also change them. As a way to personal insights and for cultural rejuvenation, education is not only crucial to sustainable development; it is society's finest hope and most operative means in the pursuit to sustainable development.

1.3 The concept of competence and competency-based curriculum

Competence is knowledge, skills and behaviors one ought to have attained for him or her to execute tasks at school and world of work (Moshia, 2012). Kouwenhoven, (2003) describes competence as ability to choose and apply an integrated consolidation of skills, knowledge and attitudes with the purpose of realizing a task in a given setting. In this context, competence is described as the capability of learners to engage a specific task to set norms emphasizing what they can do as opposed to what they know. In this respect, Competence-based curriculum is type of education that is purposed to cultivate in students the capabilities to learn and do activities to set standards. A curriculum that is described as competence-based thus, encompasses explicit outcome statements that demonstrate the competencies to be achieved. Moshia (2012), posits that a competency-based curriculum is one that aims at developing in learners the capacity to perform, to learn and learn how to learn and to know.

The competency-based curriculum is considered appropriate for addressing the changing societal needs, technological socio-economic demands of the country for sustainable development. It is aimed at addressing issues of unemployment among the youths and graduates by emphasizing on acquisition of skills, knowledge, behaviours and attitudes significant in carrying out various errands (Maodzwa-Taruvinga & Cross, 2012).

The competency-based curriculum, as outlined by Wangeja (2010), is one where knowledge is constructed and not transmitted and prior knowledge impacts on the learning process. It is a shift from the traditional input driven education whose main focus was development of knowledge to competence-based education which is competence-based education (Young, 2009). It emphasizes on the development of skills as combined abilities of values, skills, knowledge and attitudes essential for carrying out different tasks (Mulder, 2014).

The competency-based curriculum discourages mere acquisition of knowledge and lays more emphasizes on skill development. There is a change from content-based to competency-based curriculum. Therefore, this calls for change of the teaching-learning approaches from rote memorization to approaches that support development of competencies and skills that can be applied in solving life

problems for sustainable development (Woods, 2008; World Bank, 2011).

The Competence-Based Curriculum (CBC) was initiated from teacher education courses in the US in the 1970s (Schilling & Koetting, 2010). This CBC undertaking came about out of the necessity to have a curriculum that emanates directly from the challenges, issues and features of a transformed society. During the 1960s, CBC was branded as performance-based teacher education, which was recognized by its exhaustive scrutiny of behavioral aspects of professional activities (Mulder & Biemans, 2003). The need for enhanced efficacy and better production in the industries also resulted to crafting of best strategies to accomplish a task (Goodman, Henderson & Stenzel, 2006; Kouwenhoven, 2003). Mulder (2004) asserts that competence-based education became primarily associated with behaviorism, mastery learning and modular teaching. Largely, the competence-based curriculum school of thought emanated from discontentment with programs in the post-secondary education. The challenge was that many colleges and universities offered programmes that had no clear aims in regards to what the learners were being trained to do or be (Mulder, 2004).

Likewise, Kenya, in response to the challenge of providing valuable education for sustainable development, is switching from objectives-based curriculum to competency-based curriculum (CBC). Just like many African countries, Kenya is characterized by high number of unemployed youths casting aspersions on the quality of education offered. To curb this menace, education sector in Kenya is being aligned to meet the needs and aspirations of the Kenyan populace and vocational training should be emphasized to aid lessen the escalating youth unemployment in line with sessional paper No. 1 of 2005 on policy framework on Education, Training and Research (Republic of Kenya, 2005). The Kenyan Ministry of education in 2011 set up a Task Force on the realignment of the Education sector to the new constitution chaired by Professor Douglas Odhiambo. The Task force was to advise on a suitable framework for the management of education at the institutional, county, and national levels and review the legal and policy frameworks, to review research, training and education segment to match with the constitution and similarly examine the responsiveness and relevance of the national curriculum to the vision 2030. To this end, it also recommended for the change of curriculum; from the current 8:4:4 system to Competency Based Curriculum.

The social pillar in the vision 2030 underscores education and training as the means into Kenya becoming stable economically for sustainable development. In view of this, Prof. Douglas Odhiambo's task force in 2012 came up with the competency-based curriculum which emphasized more on practical subjects neglected earlier on (Republic of Kenya, 2012). This new competence-based curriculum is aimed at producing a self-reliant and creative citizens in

an attempt to alleviate unemployment soaring rates in Kenya.

In January 2011, the public of Kenya set off a review of the national curriculum in order to develop a curriculum that will sufficiently address and meet the needs and aspirations of the Kenyans and equip the children with knowledge, appropriate attitudes and skills that will spire them for sustainable economic development. A research report on the need's assessment for curriculum reform by Kenya Institute of Curriculum Development (KICD) in its findings, revealed the necessity of competencies that develop self-reliance, self-care and personal development. Values of honesty, humility and love were proposed for inculcation. Among critical learning areas brought out by the findings were those with the ability to raise levels of economic empowerment at the individual level and also contribute to the overall economic development. Content that is suitable for education in the 21st Century, like Critical thinking, Communication, Collaboration and Creativity were also cited as important, with a high ranking above 90%. Others were Mathematics, Languages, Sciences, Information Communication Technology (ICT) and Entrepreneurship. Findings of the study particularized on pedagogies that are more connected to active participation, which promotes what can be done with knowledge, instead of passive participation, which emphasizes transmission and accumulation of knowledge. The KICD report affirmed the necessity for a primary school curriculum that integrates and equips individuals with competences and skills applicable in real life situations locally and globally. The new curriculum was aimed at creating pathways to domicile talents (Pathways to Education, 2016).

The Kenyan new curriculum reforms are aimed at nurturing every learner's potential and creating an avenue for identifying, nurturing and developing the learners' talents through the learning tracks and pathways which will be offered at senior secondary (Republic of Kenya, 2012). Based on the needs assessment study carried out by KICD and the vision and mission of the Basic Education Curriculum Framework (BECF), there are seven competencies to be developed and they include self-efficacy, citizenship, creativity and imagination, learning to learn, critical thinking and problem solving, communication and collaboration, and digital literacy.

Basic education is structured into three levels; early years education, middle school education and senior school. The new competence-based curriculum was trolled in January 2017 and is being implemented in lower primary school and is rolled out in phases from grade one and two. In 2019, the competency-based curriculum was rolled out from grade three to six. In 2020, it will be protracted to grade seven, eight and form one. In 2021, 2022 and 2023 it will be extended to form two, form three and form four respectively (Daily Nation, Sunday, January 22, 2017). The 2-6-3-3-3 competence-based curriculum places children's needs and interests first before those of their

schools, parents and teachers. Its main aim is to ensure every Kenyan child is ethical, empowered and engaged.

The shift from content and teacher centred curriculum to competency-based curriculum is a move towards refining the value of education by allowing children to widen their skills pertinent in their life and diverse application for sustainable development (Komba & Mwandaji, 2016).

1.4 Rationale for advocacy of the Competency Based Curriculum

The 8-4-4 structure of education was initiated in 1985 following the recommendations of the 1981 'Presidential Working Party on the Establishment of the Second University in Kenya' (Republic of Kenya, 1981). The rationale behind the initiation of the system was education for self-reliance. A number of Task Force reports, summative and formative evaluation reports resulted into curriculum reviews in 1992, 1995 and 2002, respectively. Superficially, these evaluations only focused on concerns of curriculum content, emerging issues and unnecessary overlaps. The assessments haven't sufficiently addressed pertinent concerns that would change society by augmenting the efficiency of each Kenyan citizen and fast-track economic progression for sustainable development (Komba & Mwandaji, 2016). The Summative Evaluation of the Curriculum (KIE, 2009), accentuated that the curriculum content and its implementation was academic and examination centered. Further to burdening curriculum, many schools were not sufficiently equipped with workshops to enable the teaching of practical skills and teachers were not sufficiently trained.

The finalists at secondary school category didn't realize sufficient entrepreneurial skills for self-reliance. Far from being characterized by high unemployment rates among the youths, there was also the menace of the emergence of vices characterized by antisocial behavior such as increased crime, drug abuse among others. Additionally, the faced out curriculum doesn't offer supple education pathways for identifying and nurturing the talents and interests of learners' early stages to prepare them for job market, career advancement and sustainable development. Assessment, which is fundamental for the provision of quality education, has been restricted to summative assessment (end of program) while on the same breath many of instructors hardly utilize formative assessment (ongoing) (KIE, 2009).

This has resulted to a scenario where there is throat cutting competition in learning instead of a focus on the attainment of necessary knowledge and skills. The curriculum makes petite provision for the appreciation of the learner's potential, gifts and talents due to needless focus on examination. This has further led to higher wastage and dropout rates in education in addition to escalating unemployment rates.

In harmony with the 2012 'Task Force report on the Re-alignment of the Education Sector to the 2010 Kenyan Constitution and Kenya Vision 2030' led by Professor Odhiambo, the Government crafted the Sessional Paper No. 2 of 2015 on 'Reforming Education and Training in Kenya'. The Sessional Paper spells that education in the country is steered by the state philosophy, which regards education as the core in the country's social and economic growth for sustainable development. The Sessional Paper petitions restructuring the Education Sector to accommodate the development of the distinct learner's abilities in a holistic and unified approach, whereas making physically, intellectually, emotionally and poised citizens. Additionally, it petitions for a competency based curriculum; inclusion of three learning pathways at senior secondary school level; spotting and nurturing of talents early enough; establishment of a national learning evaluation system and the integration of national values and cohesion in the curriculum.

Sessional Paper No. 2 of 2015 and Kenya Vision 2030 put robust prominence on the significance of science, technology and innovation, while as the outgoing curriculum doesn't offer thoughtful policies, suitable pedagogical approaches and adequate resources to anchor a resilient foundation for the growth of these skills. Furthermore, innovative, vocational and technical skills well-thought-out as important for achieving the demand for skilled labour and the country's goal of industrialization to foster sustainable development are not well provided for in the outgoing curriculum.

2.0 Theoretical framework

The Competency Based Curriculum is reinforced by several theories. Visible Learning Theory is one of such theories (Hattie, 2008). According to Hattie, visible learning ensues when instructors perceive learning through the eyes of learners and assist them become their own instructors. Through this, the theory embraces the need for learners to be able to think about and solve problems, work in teams, communicate through discussions, take initiatives and bring various viewpoints to their learning environment. Visible learning means an improved role for teachers as they become evaluators of their individual teaching. It entails making student learning visible to teachers so that they can know whether they are creating impact on learning or not, this is a significant component of becoming a lifelong learner. This resonates well with the Sustainable Development Goals.

In visible teaching, the learner knows what is done and how it is done. In visible learning the teacher knows if learning is taking place or not. Teaching is visible only when the instructor and the learner work collectively to achieve the objectives, give feedback, and establish whether the learner has achieved the objectives. Research has shown that the utmost achievement on learner learning

is realized when not only the learners are their own instructors (by means of self-monitoring, and self-evaluation), but when the instructors are learners of their individual teaching. In efficacious classrooms, both the learning and teaching are visible. This theory is significant in laying ground for competency based curriculum. It provides guidelines on the nature of approach in the learning set up between the teacher, the learner and the environment. It also provides foundation for designing a formative and criterion referenced assessment, which is the foundation of a competency-based curriculum. Instructional design theory also lays base for Competency Based Curriculum. It describes designs which offer guidance on fostering cognitive learning (Perkins, 1992). Constructivism theories, which opine that human beings construct all knowledge while participating in different mental and physical experiences by proponents such as Dewey, Vygotsky, Piaget, Brunner, and more recently Gardner and Hattie, have also laid basis for CBC among other theories.

3. Competency Based Curriculum challenges in the Kenyan context

3.1 Teachers' readiness and execution of the competency-based curriculum

Right from the conceptualization to the start of the execution of the CBC, the contentious issue among the stakeholders has been the preparedness of the teachers to implement the new curriculum. Against the background of vast expansion and creation of novel knowledge and an economy-based society, the teachers must be prepared adequately to adopt a complex evolutionary and responsive approach considering curriculum changes (Gatlin, 2009). The teaching career should be developed on a procedural manner on the foundation of an improved receptiveness to the training requirements determined by the changes in the socio-economic society to increase teachers' skills and knowledge in implementing the CBC (Serdenciuc, 2013).

A study carried out in Tanzania by Makunja (2016) on challenges instructors experience in executing the competency-based curriculum found that teachers had not been oriented to keep them abreast in readiness for execution of the Competency Based Curriculum. The findings showed that inadequate teacher preparation was encumbering the execution of the Competency Based Curriculum. The teachers who are critical players lacked knowledge, skills and understanding for effective implementation of the competency-based curriculum. This is construed to be the case in Kenya given the complaints from the stakeholders, especially teacher trade unions. Though there has been government attempt to conduct workshops to sensitize teachers on the CBC it has been criticized as hurriedly done and not engaging all teachers.

Sossion (2019) claims that the teacher union, especially the Kenya National Union of Teachers, would not be part of the implementers of Competency Based Curriculum because the executors of the curriculum (teachers) fall short of the technical know-how of Competency Based Curriculum, prerequisite skills and competencies to interpret Competency Based Curriculum designs.

A study by Mosioma (2018) on teachers' preparedness for implementation of the CBC in private pre-schools in Dagoretti North Sub-County, Nairobi City County, indicated that majority (45.2%) had agreed that they were fully prepared with subject matter knowledge to implement the competency-based curriculum while (44.1%) disagreed. An alarming high number of (44.1%) indicated that they are not fully prepared with subject matter knowledge to implement the competency-based curriculum. This is likely to a negative effect on the execution of the competency-based curriculum. In Rwanda, all teachers were trained but some resisted change. Teachers were reported to have been very familiar with the old methodology and some felt more comfortable about keeping the same teaching documents from the past years, instead of adapting them to the new methodology (Urunana, 2018).

3.2 Teachers' digital literacy skills and execution of the competency-based curriculum

Digital literacy is one of the core competencies of the competency-based curriculum. Teachers need to be prepared in terms of technological skills for them to transit smoothly from the traditional teaching materials to more innovative and digital resources in the new curriculum. According to Buageng-Andoh (2012), there is an increasing demand in the use of ICT in schools in delivery and teaching of knowledge and skills required for the 21st Century.

A study conducted by Chege (2014) on factors influencing teachers' readiness to use ICT in teaching in public secondary institutions in Gatundu North Sub-County, Kiambu County, revealed that only 13.75 percent of the teachers were very confident about their ability to use ICT in teaching in the classroom. This means that majority of the teachers do not have enough technological skills to implement ICT in classroom. The study further revealed that many of the teachers recommended training to make teachers more knowledgeable on ICT. This is construed to the same scenario presently in the whole country since no much has been achieved on ICT literacy.

A study conducted by Mosioma (2018) on teachers' preparedness for implementation of the CBC in private pre-schools in Dagoretti North Sub-County, Nairobi City County, revealed that majority of pre-school teachers (61.3%) have not been exposed to ICT and only (38.7%) had been exposed. Findings also indicated that majority

(67.7%) confirmed that their level of competence in the use of ICT was below average and that they lacked technological skills. This implies that facilitation and execution of the curriculum will be derailed by lack of teachers' exposure to ICT and inadequate technological skills.

Another report on competency-based curriculum activities by KICD (2018) on teachers trained on ICT integration indicated that 61 percent of teachers are not trained on ICT. This means that digital literacy, as one of the crucial competency areas, may not be realized fully given the prevailing challenges.

3.3 Teachers' involvement and execution of the competency-based curriculum

Teachers are vital and influential stakeholders in determining the degree to which schools implement curriculum policies (Porter, 2015). Thus, curriculum reforms may not be effectively carried out if the teachers who are very important in executing the changes do not feel the need for curriculum reforms. A study carried out by Kaniuka (2012), observed that curriculum reformed that incorporated teachers in the decision-making process revealed necessity for increased teacher capacity and readiness for effective curriculum reforms to take place and therefore improved learner achievement. Analysis of educational stakeholders discourse in Kenya reveals that there is a feeling that teachers have not sufficiently been involved in the CBC crafting and implementation. The question is; where was the teacher in planning, needs assessments, implementation and evaluation phases of the CBC in Kenya?

Sossion (2019), in a paid up advert faults the Ministry of Education of waning to secure stakeholders participation and involvement. "CBC needs parents, guardians, members of Boards of Management and the school community to be sensitized on every aspect of the new curriculum. Since the ministry and its agencies have failed to address themselves on this, Knut has no business supporting implementation of CBC." In the Rwandan experience with CBC, the Urunana rw'abarezi (2018), Rwanda Education Board Magazine on implementing CBC: Successes and Challenges; reports that teachers and other stakeholders were heavily involved in every aspect of the CBC. This can be replicated in Kenya.

3.4 Competency Based Curriculum and insufficient implementation resources

A study on competency based in Tanzania by Makunja (2016) underscored inadequate learning and teaching resources as one of the impediments the instructors encountered in executing competence-based curriculum with disparities from one institution to another. The learning and teaching resources are vital as they assist learners to actively partake in the learning and teaching

process. In Rwanda, insufficiency of teaching materials has been identified as a challenge in relation to the implementation of the CBC (Urunana, 2018).

Sossion claims that the necessities for the CBC in Kenya are above what the country can accommodate at the moment due to financial demands.

“This is because the implementation of CBC requires small class sizes as per UNESCO recommended standards for personalized learning, which means more classrooms, libraries, workshops, computer rooms and more schools have to be constructed. Most public schools lack infrastructures, at least three teachers per class are required, which Kenya cannot afford presently because of acute shortage of teachers. Kenya faces perpetual shortage of teachers, hence CBC would be a nightmare if introduced. There is no feasible plan to recruit more teachers,” states Sossion.

The KNUST secretary further argues that the dilapidated status of public institutions is only beneficial to private institutions, which are now engaging profitable business at the expense of public institutions.

3.5 Legal challenges and implementation of CBC

There is a concern by education stakeholders that the CBC is characterized by legislative lacuna on which it is anchored. Sossion (2019) complaining in local dailies, the union teachers’ secretary-general claimed that the continuing execution of the CBC in pre-school and lower primary is unlawful in nature, and a violation of the 2010 Kenyan Constitution.

“Worth noting, there is no statutory instruments to anchor the exercise, no Commission gazetted to manage the process, and the exercise is in total contravention of Public Participation Act (2018),” says Sossion.

4. Recommendations towards overcoming CBC challenges

Despite the challenges raised by the educational stakeholders facing the execution of the CBC, the Education Cabinet Secretary Prof. Magoha has insisted that the implementation of the CBC is on despite opposition (Daily Nation, 3rd May 2019). Given this scenario it is prudent that the Ministry of Education and other stakeholders hasten to address some of these gaps identified for successful implementation of the CBS,

which is critical in as far as sustainable development is concerned.

4.1 Provision of in-service training for teachers

Makunja (2016) study in Tanzania on CBC revealed that 43 teachers (42.15%) of the total respondents reported that teachers should be re-oriented towards CBC through workshops and seminars. According to the teachers, they lacked in-service training on CBC, which was a big limitation towards successful implementation of CBC. Definitely, before any implementation of the new curriculum, the government should make sure that they train all teachers to furnish them with knowledge and skills and not a few as argued in the Kenyan case. On the same breath, those responsible in decision making in the sector of education should ensure that ICT is integrated at all levels of learning. In Rwanda, as they adopted the CBC, the Teacher Training Colleges (TTC) and Higher Learning Institutions played an important role in improving the quality of education. Regarding the Competency Based Curriculum (CBC), these institutions contributed a lot to its effective implementation by ensuring that future teachers were well versed in the new teaching methodology (Urunana, 2018).

4.2 Teachers Involvement in Decision-making in Curriculum Change

Given the significant role teachers play as curriculum implementers in the schools they should be involved in decisions regarding curriculum change. In this way they will own the process. In his CBC study in Tanzania Makunja (2016) has emphasized the significance of involving teachers in curriculum change initiatives to make them feel part of the curriculum development process, and not mere implementers. This further will enhance the spirit of participation as articulated by the 2010 Kenyan constitution and Public Participation Act (2018). In his study on rational and challenges of Competency Based Education and training in Uganda, Jacob (2015) underscores the need of effectively engaging the full range of stakeholders in the search for solutions in crucial issues such as curriculum.

4.3 Provision of sufficient Learning and Teaching Resources

In the Makunja (2016) study in Tanzania, the head teachers, academic teachers, teachers and learners recommended that the state should guarantee provision of sufficient learning and teaching resources are allocated and supplied to all public secondary schools. The respondents stated that the provision of quality education is contingent on accessibility of quality teaching and

learning materials whose responsibility is the government and other education stakeholders.

Sossion (2019) proposes provision of small class sizes in Kenya as per UNESCO recommendation standards for personalized learning to take place. Further he recommends for provision of infrastructures such computer labs, workshops, libraries, and construction of more classrooms to cater for rising numbers occasioned by 100 % transition policy from primary to secondary by the government. With all these reviews and stakeholders' suggestions it is imperative that the government ought to adopt sound strategies on how to acquire the requisite resources to enable the successful execution of the Competency Based Curriculum in Kenya.

In Rwanda as they also struggle to put in place resources for the CBC, the government has engaged strategies such as establishing Teacher Resource Centres (TRC) with teachers as managers. In these centres, they train pre-primary, primary teachers and Teacher Training Colleges tutors on how to make and use teaching aids. The teaching aids are made from locally available materials. The teachers in these centres are also taught on how to use these teaching learning resources. For pre-service teachers, they created a club for making resources after classes, when they become many they share them with surrounding primary schools (Urunana, 2018).

4.4 Legislation of relevant legal tools for the CBC

There is need for the government through the ministry of education to provide a legal framework to guide execution of the Competency Based Curriculum. There is need also to have a panel or secretariat of seasoned curriculum experts, academicians, researchers and other education stakeholders to manage challenges of the CBC as it is being executed to give it sufficient statutory back up.

The trade union for teachers through Knut has issued some recommendations which include; the government crafting a new national philosophy of Education for the 21st Century to address the big question: Education for What? They also want the government to establish, by a Gazette Notice, a Commission with clear mandate and terms of reference constituting of curriculum experts, education policies developers and other education experts to assess the CBC and consider other educational reforms necessary, to enable the minister for education to make informed decisions.

4.5 Benchmarking from most successful implementer countries

As we content with challenges of the CBC, it is discreet that the MoE in Kenya considers benchmarking in

countries which have had a successful story in the execution of the Competency Based Curriculum. Such countries include; Canada, Finland, Scotland among others (Dale et al, 2015).

In the paid advert on why the teachers union is against the new curriculum the secretary Mr. Sossion, (2019) proclaims “ it is laughable that the MoE, while reforming the Education Curriculum, benchmarked with countries like Ghana, Burundi, Malaysia, Zanzibar, South Africa Tanzania, Uganda among others, where CBC has failed. Kenya also benchmarked with South Sudan which borrowed the 8-4-4 Education system,” reads the paid advert.

4.6 Establishment of national secretariat on CBC

There is need for MoE, in conjunction with the government of Kenya, to establish a panel of seasoned curriculum experts, academicians, researchers, among other competent professionals to monitor and mitigate the challenges of the CBC as they occur given that the curriculum has already been rolled out nationally.

4.7 Development of Teacher Education Technical Paper on CBC

Arising out of confessions by teacher unions and other education stakeholders is that teachers lack prerequisite skills and competencies to interpret CBC designs (Sossion, 2019). There is need by the MoE to develop a technical paper on teacher education to help them prepare to acquire the right skills and competencies to aid in CBC delivery.

4.8 Securing more funding for the CBC

Stakeholders have argued over the high cost needed to implement the CBC fully (Sossion, 2019). The government of Kenya should purpose to increase the education budgetary allocation. Further, it can secure more financial support from donors and other well-wishers to fund the CBC.

4.9 Hiring more teachers

Current teacher shortage in Kenya primary schools stand at 37,643 while that in secondary schools is at 49,750 (Wanzala, 2019). The CBC requires at least three teachers per class for effective implementation. There is need to hire more teachers to effectively implement the CBC.

5. Conclusion

It is evident from the scholarly discourses and reflections discoursed in this theoretical paper that there is necessity to re-orient our education systems to another paradigm that will help students to better comprehend the world in which they inhabit, underscoring the interconnectedness and complexity of challenges such as food security, health, unemployment, environmental dilapidation, population growth, gender inequalities, conflicts, urbanization and the abuse of human rights that threaten our sustainable future. This type of education stresses on a holistic, interdisciplinary approach to developing the skills and knowledge desired for a sustainable development as well as changes in values, behaviour, and lifestyles in order to endow everybody to make decisions to mitigate the challenges that threaten our future which we want to sustain. To this end, the CBC has been proposed as stepping stone to achieving this vision though characterized with a number of challenges which can be addressed concertedly and progressively by all stakeholders.

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