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### RESEARCH ARTICLE

#### STAKEHOLDERS' PREPAREDNESS OF SCHOOL TEACHING AND LEARNING RESOURCES TO FACILITATE TRANSITION FROM 8-4-4 TO COMPETENCY BASED CURRICULUM IN BUNGOMA, KENYA

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#### Abstract

Change and transition processes are complex. As a result, the implementers tend to be reluctant in executing them. Education in Kenya has evolved with time in an effort to meet the needs of the changing times to attain quality standards. However, policy changes in the education sector have been both a success as well as have experienced failures in their implementation. Kenya's education system is currently transitioning from 8-4-4 to the Competency Based Curriculum (CBC) which is in its implementation stage following a one-year pilot. This study sought to investigate the Stakeholders' preparedness of school teaching and learning resources to facilitate transition from 8-4-4 to Competency Based Curriculum in Bungoma, Kenya. The study was anchored on Kotters eight step model theory that defines the manner of handling change in an organization and used descriptive research design due to its appropriateness in identifying characteristics, frequencies, trends, correlations and categories of the variables under study. The population under study was divided into separate clusters from which a probability sample was drawn. The target population of 3,159 was used and samples were drawn from the target population with the use of systematic random sampling and purposive sampling techniques. Further, data was collected by use of questionnaires, interview guides and document analysis guide. The study revealed that the pace of transition from 8-4-4 to CBC was slow with (287) 90% out of the 319 school heads' who held the view that the pace of transition to CBC is slow while 113(64.6%) out of the 175 teacher respondents held a similar view. The study found that the lack of adequate resource variables accounted for the slow pace of transition compared to attitude and condition variables. Further the study revealed a statistically significant positive relationship between availability of school resources and transition from 8-4-4 to CBC. Indeed, the availability of physical resources is critical in facilitating the transition from 8-4-4 to CBC. Further, the study recommended that focus should be laid on providing interventions for the lacking resource variables and incorporation of self-learning training strategies for the instructors as well as students in order to overcome the challenge occasioned by the inappropriate pupil-teacher ratio. The study concluded that the discrepancy with regards to the lack of adequate resources had more to

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do with lack of proper change management with regards to transition and therefore the National government, County government, educational planners, principals and School Boards of Management ought to intervene by incorporating change management strategies to spur the CBC change management process, failure to which the CBC may fail to take root like other preceding policies in the education sector.

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## **Introduction:-**

Organizational capacity to change has been referred to as the overall capability of an organization to prepare or respond to unpredictable circumstances emanating from within or outside its external environment. This capability enables an organization to upgrade or revise its existing organizational competencies so as to cultivate new competencies in order to survive and prosper (Vail, 1991). Change within the organization may affect behavior, shared beliefs, the way work is done and the rules that shape mental models. It is noteworthy that these mental models are a part of organizational culture (Hayes, 2007). The change process is the means of transforming an organization or away to realize the new vision for an organization and involves going through several stages to execute different tasks, including performing tasks such as; organizational audit, planning for the 8-4-4 by formulating a change strategy, communicating, persuading others and consolidating the change. In order for this to take place, transformational leadership is required at the individual, group and organizational level so as to attain all these activities (Christensen, 2000).

One of the major challenges identified in planning and implementation of reforms in education is an inclination to formulate ambitious transformations without adequate plans that will lead to implementation (Havelock and Hubberman, 1978). It has been observed that in many countries that curriculum change follows a heavy top-down approach. Nevertheless, each stakeholder holds his own perspective to educational issues. Therefore, before pursuing curriculum changes, it is necessary for policymakers and other stakeholders to have an in-depth understanding of the roles, expectations and interests of the various actors, groups and institutions that are involved in, or affected by the process of change (IBE-UNESCO, 2013).

Managing change in Kenya's educational space has previously faced uncountable challenges. According to Otach (2008), the NARC (National Rainbow Coalition) government implemented the free primary education program with the aim of providing more opportunities to the disadvantaged school age children in January 2003. However, soon after its rollout some of the challenges were experienced such as; congested classrooms, limited physical facilities and shortage of qualified teachers. It has been noted that these challenges have continued to have negative impact on the quality of teaching and learning which resulted to indiscipline in schools (Okwach & George, 1997). On January 3rd 2019, the competency-based curriculum (CBC) also known as 2-6-3-3-3 education system for early years' education was rolled out in preprimary 1 and 2, and grades 1,2 and 3 across the country. Prior to its implementation stage, the curriculum designs for early years education had been distributed to schools. Some 186,000 teachers currently teaching the early years pupils were trained in four sessions; December 2017, April 2018, August 2018 and December 2018 respectively (Kihui, 2019).

It is noteworthy that the aspect of curriculum change has invited interest from various stakeholders, varied ideas, criticisms, skepticism, and cynicism in equal measure. Questions such as; if the changes are realistic, if a country like Kenya can implement such changes realistically, the ability/flexibility of teachers in Kenya to adapt the changes and if the changes can be successfully realized have become very common in most forums where the curriculum reforms agenda is presented. Curriculum reforms, therefore, ought to be undertaken with keen attention to both processes and products (Kabita, 2017). Kenya has only experienced one major curriculum reform since its independence, in 1963. The reform was prompted by a change in the structure of the Kenyan education system in 1985. Ironically, the reform was incidental, and not initially anticipated.

In 1981, the government set up an Education Commission, named "The Presidential Working Party on the Second University in Kenya" whose singular mandate was to advise on the establishment of the second university in Kenya. This notwithstanding, in the course of its deliberations, the Commission advised the government that it would be practical to reform the country's education structure and curriculum. This culminated in the change of structure of

education from 7 years of primary education to 8; from 6 years of secondary education to 4; and from a minimum of 3 years of university education to 4, hence the system. While the structure of education has remained intact since its implementation in 1985, the curriculum has undergone several reviews, in 1990, 1992, 1995, and 2003. Nonetheless, the majority of citizens felt strongly that the current system of education (including both structure and curriculum) were not fit for purpose. This was confirmed by findings of a summative evaluation, of primary and secondary education curricula, conducted by the Kenya Institute of Curriculum Development (KICD) in 2009; and a national needs assessment study, also conducted by KICD in 2016. This was also guided by the Kenya Vision 2030, which is the country's blue print for national development and which points towards the need to reform the country's education in order to equip citizens with the necessary knowledge, skills, attitudes, and values to achieve the nation's social, economic, and political aspirations (Kabita, 2017).

In order to steer the implementation of the CBC, the Ministry of Education Science and Technology (MoEST) constituted a taskforce which provided guidelines and oversaw tasks such as training stakeholders on CBC and conducted the first nationwide evaluations in 2019. In spite of the efforts currently being made to ensure efficient and effective management of the curriculum reform, the Kenya National Union of teachers (KNUT) among other critics called for the suspension of the Competency Based Curriculum citing that the teachers were ill prepared and lacked the adequate training among other reasons such as need for proper infrastructure, lack of public awareness campaign after the rollout by KICD, TSC and MoE and insufficient stakeholder involvement (Kihuu, 2019). The rationale behind the change from 8-4-4 to CBC emanated from the various forces of change such as; social, business and economic, political, governmental, technological, demographic, legal, and natural environmental factors respectively. Therefore, the need to manage the change successfully will enable the various stakeholders in the education space to be in tandem with the on-going developmental forces and steer country's economy.

Prior to emergence of CBC in Kenya, important transformative changes in education sector have been abandoned or were poorly implemented. The 8-4-4 system of education was deemed to be expensive and burdensome to parents, pupils and teachers. There was lack of adequate funding by government, insufficient training of teachers tasked with implementing 8-4-4's vocational and technical subjects and too much content for teachers to deliver and students to grasp. These among other challenges led to failure of 8-4-4 in achieving the objectives envisioned in the Mackay report. The 8-4-4 system of education emphasized on sciences, mathematics, technical and vocational subjects and this required specific teaching and learning resources to facilitate learning. Its mode of evaluation comprised of summative tests, examination and good performance was based on grading. On the other hand, the CBC intends to develop a broad skill base focused on core competencies such as; cognitive critical thinking, problem solving, knowledge application and creativity. Implementation of the CBC requires the teachers to utilize differentiated instructional support. Further, learners undergoing the CBC are required to undertake continuous assessment unlike the 8-4-4. There are many opportunities for the CBC to thrive as it is still in its advent phase and previously made transition problems can be addressed. Currently, the education sector has teacher shortages, congestion in schools, very minimal training for teachers, capitation delays, inadequate resources and infrastructure. In spite of CBC's opportunities to thrive, there are still many challenges that need to be addressed in order to facilitate smooth transition from 8-4-4 to CBC. The glaring challenges are an indication of neglect of education sector policy documents such as the basic education regulations (2015) subsection one which provides requirements for provision of school utilities and education sector disaster management policy of July (2018) and pupil-teacher ratio. This raises a concern on the level of stakeholder preparedness in transitioning from 8-4-4 to CBC in the education sector and how effective the transition from 8-4-4 to competency based curriculum will be.

The overriding objectives of the study were; to examine individual teaching and learning conditions to facilitate transition from 8-4-4 to CBC, to examine environmental teaching and learning conditions to facilitate transition from 8-4-4 to CBC, and to examine organizational teaching and learning conditions to facilitate transition from 8-4-4 to CBC. The corresponding null hypothesis that guided the study were three that stated that; there is no statistically significant relationship between the individual teaching & learning conditions and transition from 8-4-4 to CBC, there is no statistically significant relationship between the environmental teaching & learning conditions and transition from 8-4-4 to CBC and thirdly, there is no statistically significant relationship between the organizational teaching & learning conditions and transition from 8-4-4 to CBC.

### **Theoretical Background and Literature Review**

This study was guided by the Kotter's eight step model theory. This is an eight-step process that defines the manner of handling change in an organization which offers a holistic approach to implement far-reaching organizational

change (Kotter, 1995). It is imperative for the management to convince the employees and staff of the urgency of taking new direction in the organization. Kotter advises that the management should help others feel a gut-level determination to move and win now (Kotter, 2011). Similarly, the sense of urgency to transition from 8-4-4 to CBC should be felt and understood clearly by all stakeholders to avoid delays and prevent stagnation and resistance.

The second step is the creation of a guiding coalition. A coalition of people to lead the change effort should be formed. The team should have enough power, credibility, expertise, excellent leadership skills and a shared objective to foresee the success of the change (Kotter, 2011). Likewise, it should be acknowledged that the GoK through its MoEST established a taskforce to champion the transition from 8-4-4 to CBC. It is envisaged that this existing guiding coalition will provide the needed change management capacity that will result to curriculum transition from 8-4-4 to CBC. Additionally, the smaller management units of education such as institutions of learning should also have a team of staff who are knowledgeable in the CBC who shall form the guiding coalition that shall steer the transition from 8-4-4 to CBC.

The third step is the development of a change vision. (Kotter, 1995) observed that developing a vision for the future is crucial at this point because it serves as a basis for decision making, motivates people to take action in the right direction and help coordinate actions of different people in a fast and efficient way. Similarly, anchoring a change vision to the change management strategies of institutions of learning will enhance the capacity to manage change and enable the management to guide the team to transition effectively from 8-4-4 to CBC.

The fourth step is the communication of the vision for buy-in. To get a buy in with the employees on the vision it needs to be communicated throughout the organization. (Kotter, 1995) advised that under-communication and inconsistency is extremely common. Successful leaders, he says, use every communication channel possible to broadcast the vision daily. Communication of the change vision to all stakeholders is a strategy that will highlight the management capacity to transition from 8-4-4 to CBC thereby minimizing resistance to change.

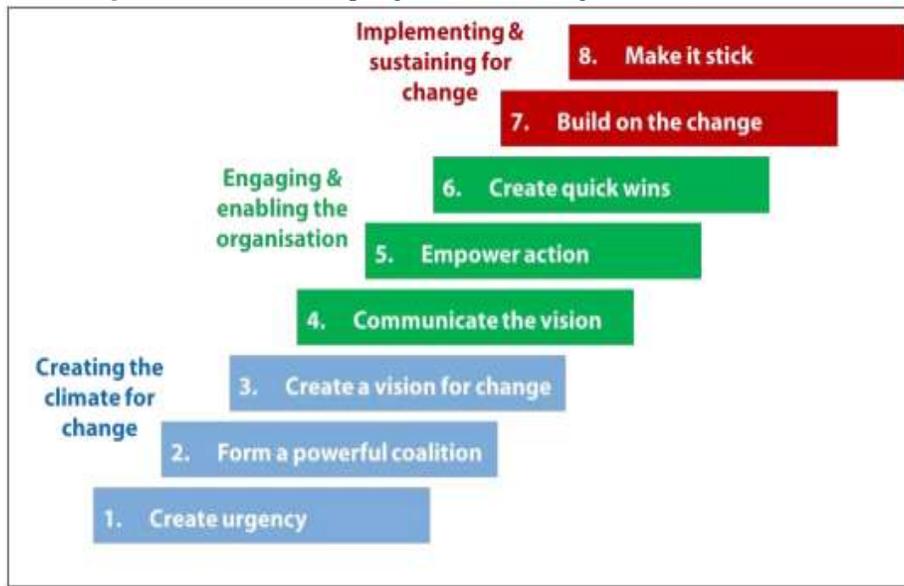
The fifth step is about empowering broad based action among the employees. Once the employees accept the new vision, they need to be empowered to act upon it. (Kotter, 1995). The guiding coalition has the responsibility of removing any barriers and make sure people have the resources, tools and systems to bring about the change. The ability to implement the change by all employees in the education sector will indicate the management's capacity to manage change and specifically the transition from 8-4-4 to CBC.

The sixth step is the generation of short-term wins. Research shows that organizations tend to lose the change momentum very quickly. To keep the sense of urgency and fire blazing, short term wins are essential. According to Kotter, companies that experience significant short-term wins are much more likely to complete a transformation process (Kotter, 2011). Similarly, the ability to manage change will be indicated by short-term wins in transitioning from 8-4-4 to CBC.

The seventh step is consolidation of gains to produce more change. Kotter warned that organizations should not declare victory before the changes and business improvements have sunk deeply into a company's culture as this may kill ongoing momentum allowing resistance to take over. Similarly, it is envisaged that transitioning from 8-4-4 to CBC is a continuous process whose management success will be indicated by its ability to conduct continuous monitoring and evaluation that will enable them to appreciate gains and produce more change.

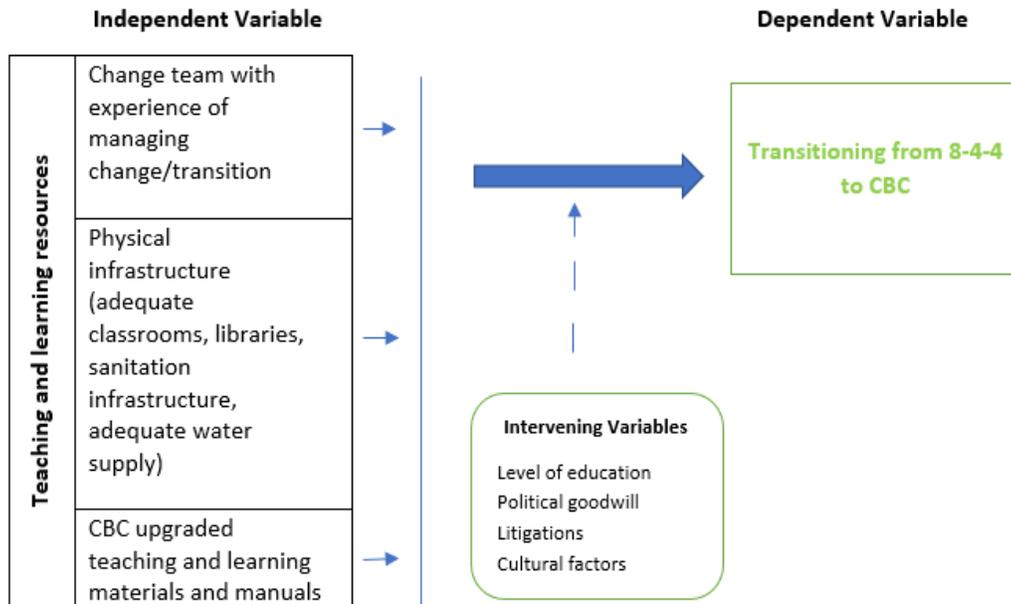
The final step is the incorporation of changes into the culture. This step is about incorporating and anchoring the new practices and approaches into the corporate culture in order to make it stick and not get lost as soon as the pressure of change subsides (Kotter, 2011). Similarly, successful change management will be indicated by the positive outcome of integration of CBC into the organizational culture.

Figure 1:- Kotter’s 8-step organizational change model (Kotter,2014).



The conceptual framework that guided this study was adopted from Kotters, 2014 and has been is illustrated diagrammatically in figure 2 below where the dependent variable is transitioning from 8-4-4 to competency-based curriculum (CBC).

Figure 2: Conceptual Framework



In the case of the cause-effect relationship, there are three types of variables in the figure above. The independent variables depicted by teaching and learning resources categorized into three as; availability of change team with experience in managing change/transition, physical infrastructure as well as availability of CBC upgraded teaching and learning materials and manuals. The dependent (result variable) is the transitioning from 8-4-4 to CBC system of education which is determined by the independent variables (causes). The dependent variables can influence each other and be directly related to each other. Additionally, there exists intervening variables which refer to abstract processes that are not directly observable but that link the independent and dependent variables. Such variables include factors such as budgetary allocation, litigations, political goodwill and level of education. The intervening variables can alter the results of the outcome variable

**Literature Review:-**

The need for preparedness of stakeholders' conditions is vital for a successful transition as highlighted by Passenheim (2010). This means that reforms need to be backed by sustainable financing. However, if the level of preparedness is poor, the efforts can be wasted when education administrators do not have knowledge, professional know-how and adequate institutional arrangements for the new tasks and responsibilities in the reforms. The concept of preparedness is well exemplified in Finland, one of the countries ranked to have the best developed education system in the world by the World Economic Forum's Global Competitiveness Report, 2021. This preparedness can be attributed to its strategies for education reform cited by its leaders who attribute the gains to; their intensive investments in teacher education whereby all teachers receive three years of high-quality graduate level preparation completely at the state's expense, a major overhaul of the curriculum and assessment system designed to ensure access to a "thinking curriculum" for all students. A recent analysis of the Finnish system summarized its core principles as; provision of resources for those who need them most, high standards and support for those with special needs, qualified teachers, evaluation of education and, balancing decentralization and centralization (Laukkanen, 2008).

According to Sahberg (2009), the Finnish education policies are a product of four decades of systematic, mostly intentional, development that has created a culture of diversity, trust, and respect within Finnish society in general, and within its education system in particular. Education sector development has been grounded on equal opportunities for all, equitable distribution of resources rather than competition, intensive early interventions for prevention, and building gradual trust among education practitioners, especially teachers. It is worth mentioning that the Finnish system shows a clear commitment to the public provision of a quality education which is responsive to local needs. He further adds that the system is highly decentralized, and most education-related decisions are taken at municipal or institutional level, with strong stakeholder participation.

Finland's preparedness of resources is also exemplified by its budget allocation whereby it spends more on education as a share of national wealth than on average across the Organization for Economic Co-operation and Development (OECD) by setting aside 5.5% compared to 5.0%. It is worth noting that a high proportion of these funds at every education level are publicly sourced. At tertiary level, tuition remains free for most students and core funding allocations to institutions are heavily performance-based (OECD, 2020). Singapore as a young nation has exemplified transformation from an impoverished country to an economically and educationally advanced country within 50 years. Its transformation journey has been gradual and purposeful. Through its concept of Thinking Schools Learning Nation, it introduced critical and creative thinking, more diversity in curriculum, greater structural diversity (independent and autonomous schools, school cluster scheme) and provided greater resourcing to encourage bottom-up innovation as well as improved its teacher education, service and working conditions. Further, it exploited the potential of information and communication technology to give students access to new information sources and make anytime, anywhere learning possible and shifted from a rigid system to a more flexible and responsive system, a system of ladders and bridges (Gopinathan & Sharpe, 1999).

According to Frost, Maria and Gents (2015), Canada emerged as one of the high performing countries using elements of the competency-based curriculum. One Canadian province adopted an education plan called the K-12 innovation strategy to foster more personalized learning for students. This move required curriculum redesign to increase autonomy at school level, encourage curriculum flexibility and focus attention on students' demonstration of high order skills. The Canadian province planned to offer autonomy to teachers. It is noteworthy that Canada consistently outperforms the United States on PISA exams in mathematics, science and reading (Frost, Maria and Gents, 2015).

In Kenya, change and subsequent transition in matters of the curriculum has been demand based. Upon adoption of new changes, emerging issues have resulted to reviews which led to further changes. Soon after independence and the creation of a single nation, came the emergence of a single educational system which was no longer stratified along racial lines. The Ominde Commission was then formed to introduce changes that would reflect the nation's sovereignty. The principal preoccupation of Ominde's report was to introduce an education system that promoted national unity and inculcated in the learners the desire to serve their nation (Simuyu, 2001).

Lack of preparedness was manifested in the 7-4-2-3 system of education in Kenya. As a result, there was a lack of capacity and flexibility in responding to the changing aspirations of individual Kenyans and the labor market needs such as skills, technologies and the attitude to work (Owino, 1997). According to Simuyu (2001), the 7-4-2-3 policy

was criticized as being too academic and therefore not suitable for direct employment. Additionally, the policy was criticized for encouraging elitist and individualistic attitudes among school leavers, something that was considered incompatible to the African socialist milieu. (Simiyu, 2001).

The Gachathi Report of 1976 raised the issue of unemployment in relation to 7-4-2-3 policy. The report maintained that "One of the largest problems confronting the country is that of unemployment." (GoK, 1976). The problem was aggravated by the annual outputs of school leavers whose number continued to swell following the enormous expansion of the education. Among those who made calls for change of educational policy were, the Kenya National Assembly's Select Committee on unemployment of 1970 (Maleche, 1976).

Therefore, the education which was regarded by Kenyans as a medium for social mobility and national economic development failed to deliver as the number of unemployed school leavers continued to grow in the first years of independence. Further, the ILO also called for a change to the education system in order to help reduce unemployment. The change consisted of increasing the technical and vocational aspects of the curriculum. The move by ILO to vocationalize the education system won support from the World Bank. As a result of the push to vocationalize the education system and solve the unemployment problem, the 8-4-4 system of education was introduced in January 1985, following the Mackay report of 1982. According to King and McGrath (2002), the 8-4-4 policy arose out of the concerns that a basic academic education might lack the necessary content to promote widespread sustainable self-employment (King and McGrath, 2002).

Similarly, the new CBC was conceived out of the same concern to promote sustainable self-employable skills from the acquired competencies. The 8-4-4 policy emanated from the assumption that it would equip pupils with employable skills thereby enabling school dropouts at all levels to be either self-employed or secure employment in the informal sector. King & McGrath (2002) observed that a new policy would orient youths towards self-employment. The system was lauded for strongly emphasizing attitudinal and skills preparations for the world of work and especially self-employment. The 8-4-4 system became the subject of national debate since its inception. It was criticized for being broad, expensive and burdensome to pupils and parents.

In as much as adjustments were made to the system for it to be more accommodative, several commissions were formed with the view of improving the system such as; The Wanjigi Report (GoK, 1983); The Kamunge Report (GoK, 1985), The Mungai Report (GoK, 1995); The Ndegwa Report (GoK, 1991) and The Koech Report (GoK, 1999). A majority of these reports were either rejected or partially implemented. For instance; The Kamunge Report (GoK, 1985) on education and training which recommended the reduction of examination subjects under the, was implemented in secondary schools but ignored at the primary school level (Muya, 2000).

In a study conducted by Serem and Ronoh (2012), on the challenges faced in implementing free primary education for pastoralists in Kenya to evaluate the impact of an educational policy and find out how its implementation responds to challenges in provision of access to Primary Schooling it was determined that inadequate funding; poor infrastructure; limited awareness towards education; limited community support; insecurity and cattle rustling and lifestyle of pastoralists that impeded the government's efforts to attain FPE. These challenges threatened the implementation of FPE for pastoralists and further illustrated the complex and messy process of policy implementation in education sector (Serem and Ronoh, 2012).

The findings of the study highlighted that 90.6% of the participants agreed that inadequate funding posed a challenge in the implementation of FPE. As regard to other challenges in implementing FPE for pastoralists, the following findings were reflected: 85.3% felt that there was limited community support; 70% cited negative attitude towards education; 75.3% concurred that there was lack of social amenities; 90% were of the view that poor infrastructure hindered access to schools; 84.7% noted that there were limited physical facilities; 59.4% agreed that there were difficulties in the implementation of the curriculum; 65.3% noted that the school calendar was not suitable for pastoralist mode of living; 90% of the participants cited limited community awareness towards education as a major challenge (Serem and Ronoh, 2012).

Similarly, in a study conducted by Njoroge, (2002) on FPE in Kenya and determinants of the education budget, cited that there were a lot of inefficiencies in the allocation and utilization of financial, human and materials resources. The study identified that the 5 main costs of primary education all over the world are teacher salaries, learning and teaching materials and other non-wage costs. Further, the study reported the main determinants of primary education

budget in Kenya as teachers' salaries, non-wage cost which includes development expenditures, total education budget and to some extent enrolments. Additionally, the study also revealed that the government policies including Free Primary Education and cost sharing policies are important but no significant determinants of primary education budget (Njoroge, 2002)

It should be noted that if various levels of preparedness are not put into consideration in implementing Kenya's CBC, history might repeat itself resulting to criticisms and a series of system review commissions that will be timewasting and financially draining to the Kenyan economy. Additionally, the system may result to widening the country's already worrying inequalities (Kanyi, 2019).

### **Preparedness of teaching and learning resources and infrastructure**

According to Barret et al. (2019), the physical characteristics of learning spaces have a significant impact on educational progress. In undertaking a study on the impact of school infrastructure on learning, it was established that the following specific attributes of resources and infrastructure contributed to pupils' progress in learning. The attributes include; good "natural" conditions such as lighting, air quality, temperature control, acoustics, and links to nature, age-appropriate learning spaces that offer flexible learning opportunities which pupils can adapt and personalize, connections between learning spaces that are easy to navigate and that may provide additional learning opportunities. Additionally, a level of ambient stimulation using color and visual complexity. The study further recommended schools that are designed from the inside out (classroom to school) so that each space meets the needs of its inhabitants as well as designs that take into account local climatic and cultural conditions (Barret et al., 2019).

There is strong evidence that the following factors all positively increase the chances of pupils and teachers attending school and remaining healthy at school and, in the case of teachers, staying in their profession. These factors include; schools that are soundly built and proof against natural disasters, schools which provide access to basic services, such as water, sanitation, waste disposal, electricity, and communications, good indoor environmental quality, especially in relation to air quality and dampness, opportunities for outside play, schools that are maintained in good physical condition, schools with regulations and standards that are enforced effectively on the ground and training that shows users how to get the maximum health and learning benefits from their school infrastructure (Gargiulo, 2014).

According to Adede (2012), school infrastructure is a key base for learning in schools. School infrastructure include classrooms, laboratories for the science practical, the halls and open fields for games, games equipment, dormitories, sanitation facilities and others. It is in the classrooms that the, day to day formal teaching and learning take place, in the libraries, learners get the opportunity to conduct their own personal studies or research as the resource materials are found therein, it is in the fields that extracurricular activities take place, learners and teachers need to be housed in the school and at the same time need sanitation facilities like toilets, waste disposal services and clean water etc. For this reason, school infrastructure is a very important component in ensuring successful education. It is a fact that schools vary in the kinds of infrastructure they have put in place to enable learning for quality Education.

There is need to have a change team/ human resource with experience in managing change/transition otherwise curriculum reforms may not be effectively carried out. A report on competency-based curriculum activities by KCID (2018) on teachers trained on ICT integration indicated that 61 percent of teachers were not trained on ICT. It should be noted that digital literacy is one of the core competencies of the competency-based curriculum and therefore teachers should be equipped. According to a research report on the teacher preparedness in the implementation of the CBC in pre-primary and lower primary grades in Kenya by KNUT (2019), findings from the sampled 405 schools indicated a major deficit of CBC in PP1, PP2 and Grade Three and 77.4 per cent of the sampled lacked at least one CBC trained teacher in one of the grades. Further, the findings indicated that most schools have only one trained teacher in the CBC with a learner population of 40-79 pupils per stream and more than one stream from PP1-Grade three. Additionally, it was reported that training was conducted mainly for twothree days only for only one week instead of the stipulated five days per week contrary to the stipulated period, hence giving teachers a raw deal (KNUT, 2019).

According to Maina&Waga (2019), who conducted a research to investigate digital literacy enhancement status in Kenya's CBC, there is need to interrogate possible factors resulting to low implementation beyond devices and educator preparation with virtual support. The aim of their research was to determine the level and frequency of embedding the digital literacy abilities after the teachers and school leaders in a 3- day preparation and 8 weeks of

implementation with virtual support through Communities of learning. They conducted a survey which evaluated the seven abilities based on the level and frequency of implementation and revealed from their findings that there was a correlation between the level and the frequency of implementation. They noted that all abilities were at developing stage on average and concluded that despite the deployment of devices there is still very low implementation of digital literacy (Maina and Waga, 2019).

It is inevitable that the education sector has had to contend with severe under resourcing; financially, physically and in human resources. Political Interference for political expediency and legitimization has also contributed to the current impasse (Muricho and Chang'ach). Teachers are overwhelmed and are often dealing with a diverse learner population, adapting to new use of technologies in classrooms and the demands of excellence from across society. This means that teachers on their own cannot bring change. A multi-prolonged approach that galvanizes all stakeholders has a high probability of sustaining a healthy education sector (Fullan & Fullan, 1993).

The role a well-equipped school environment play in the educational system cannot be over emphasized. Some of the importance of physical resources (school facilities), such as buildings, ventilated and spacious classrooms, furniture, instructional materials, electricity, toilet facilities, playing facilities, laboratories, libraries, aesthetics etc., as stated by Osuji (2016), are as follows; they create conducive environment for teaching and learning, help the learners to develop skills through extra-curricular activities, motivate the school teachers in the execution of their duties, help in the retention of teachers through friendly teaching environment and good allowances, reduce vices, truancy and drop-outs among learners, provide room for researchers to carry out research, enhances the activities of teaching and learning while making room for continuity in education, helps to reduce the fear of insecurity in the school environment, gives job satisfaction to teachers while ultimately helping in the actualization of educational goals through learner's and teacher's high performance. Akinsanya, (2010), added that educational resources are important because the goal of any school depends on adequate supply and utilization of physical and material resources among others as they enhance proper teaching and learning. Further, Usman, (2007), noted that central to the education process are educational resources which play an important role in the achievement of educational objectives and goals by enhancing effective teaching and learning.

According to KNUT report of 2019, there were overcrowded classrooms due to extremely high learners' enrolment. This was cited as one of the key challenges of implementing the CBC. More so, it was reported that most public schools did not have PP1 and PP2 hence school were forced to strain existing resources. Additionally, it was reported that lesson plans and schemes of work are too lengthy and entailed too much preparation and paper work at the expense of teaching time. The lack of permanent classrooms led institutions to combine some learners of different grades. Most public schools did not have PP1 and PP2 classrooms forcing learning to be undertaken under a shade or tree. Carla and Vander (2018) observed that for CBC to be effectively implemented the teachers need professional development and capacity building. The CBC approaches give teachers the different role of guide and shift instructions where learners are to be given adequate practices to enhance the attainment of competence. Teachers' reality and experiences have to streamline to fit the CBC mode of teaching.

Teacher resources are vital and should be supplied to support the education process as teachers are responsible for the delivery of the curriculum and hence are critical in determining the quality of education. Every education system is only as good as the teachers who provide the hands-on schooling. Study after study has confirmed their critical role in improving education quality and learning outcomes, which is why SDG 4 calls specifically for a major increase in the supply of qualified teachers and more support from the international community for teacher training in developing countries (UNESCO,2016).

The Kenya National Union of Teachers (KNUT) reported that majority of CBC learning areas failed to have approved books and materials and the learning areas were impacted. The most affected learning areas cited in the report included; environmental activities, literacy activities, health and nutritional, creative activities and Kenya sign language activities. Further, the lack of adapted books for SNEs in schools was noted as the CBC was not adapted for different SNE learner categories in addition to inadequate Braille materials and other teaching and learning materials for SNEs. Further, the assessment Rubrics was reported to have unclear guidelines hence the teachers found it extremely difficult to assess learners' competencies and learning progress (KNUT, 2019)

**Gaps in literature review**

This section refers to the missing pieces in the literature review or under explored literature that have scope for further research.

Link between education and economy in changing times: This consideration is to encompass issues of access, equity, equality and cost benefit 56 analysis given that the Government of Kenya dedicates 30% of its total budget to education. Previously done research including lessons drawn from other governments amidst the COVID-19 pandemic.

The role of the 4<sup>th</sup> industrial revolution in the education sector: This will encompass new literacies and technologies in teaching and learning as well as globalization in education. Theoretical considerations for implementing higher order thinking in view of the CBC in Kenya can be juxtaposed with the 4th industrial revolution. Lessons can be drawn from economies that are thriving in education.

Private sector stakeholder involvement in CBC: This will include experiences of private primary schools in implementing the CBC, challenges, triumphs, opportunities and/or lessons that can be learnt from successful and challenged private actors in CBC. Additionally, examples of private actors implementing the CBC from various parts of the globe can be cited.

Parental rights and involvement in children’s education: This may encompass matters pertaining to communicating change effectively to parents as stakeholders of CBC in Kenya. Various models of parental involvement can be explored in view of collaboration between parents and teachers. Other areas of interest may be; learning at home/from home, challenges faced by parents and successful interventions that have been made from across the globe in implementing the CBC with parents as key collaborators/stakeholders.

**Summary of Literature Review: -**

The literature reviewed clearly spells out the key assumptions that underlie the theory of change and subsequent transition. However, the assumptions about the context and external factors could be explored in more detail especially the implications. The literature review provides a narrative assessment of each key hypothesis and attempts to provide evidence from various authors and experiences both in Kenya and outside the country. In summary, it reviews that managing transition is about providing and enabling a program to achieve transition as quickly and effectively through focusing on the conditions, attitudes and resources. The focus on creating the right environment for transition requires building the internal capability, skills or motivation, to enable staff to play their part in transitioning from 8-4-4 to CBC.

**Methodology: -**

**Research Design**

The descriptive survey research design was used to obtain information both quantitatively and qualitatively due to its suitability in the primary data that will be collected from education managers and school heads pertaining to their level of preparedness in transitioning from 8-4-4 to CBC. This study adopted the descriptive research design to explore and explain additional information about the conditions, resources and attitudes of the education stakeholders. It was used to identify the characteristics, frequencies, trends and categories so as to understand of variables among sampled respondents in Bungoma County. The descriptive survey research design method is used to collect data about attitudes, opinions and habits of people on educational issues by sample administration of questionnaires to individuals (Orodho&Kombo, 2002). In addition, descriptive research design is suitable for evaluating education policies and programs (Best and Khan, 2000)

**Sample and Sampling Procedure**

This study was guided by the Yamane (1967) formula indicated below due to the fact that a sample size is a finite portion of statistical population whose properties are studied to get information about the entire population (Kombo and Tromp, 2006).

$$n = \frac{N}{1 + N(e)^2}$$

N= target population n = sample size e = (0.05) level of precision

**Table 1:-** Summary of sampling framework.

<b>Category</b>	<b>Target Population (N)</b>	<b>Sample Size (n)</b>	<b>Percentage sample (%)</b>
<b>School heads</b>	1,568	319	20%
<b>Teachers</b>	1,560	156	10%
<b>SCE officers</b>	9	9	100%
<b>KICD officers</b>	9	9	100%
<b>SCQA officers</b>	9	9	100%
<b>County Director</b>	1	1	100%
<b>Total</b>	<b>3,156</b>	<b>497</b>	<b>16%</b>

The probability sampling and non-probability sampling technique was used for this study. Gay et al., (2009) indicates that probability sampling technique allows every item of the population to have an equal chance of inclusion in the sample. Consequently, for this study, systematic random sampling was used to ensure that every public primary school across the sub-counties in Bungoma had an equal chance of being included in the sample. The non-probability sampling technique was also used in the form of purposive sampling to ensure that stakeholders within the Ministry of Education with different roles are informants of the study. Through this sampling procedure, 9 subcounty quality assurance, 9 curriculum officers, 9 subcounty education officer, 1 officer from KICD and 1 county director of education were sampled. From the target population of 784 public primary schools, 9 clusters were formed according to the sub-counties. It is from these clusters that systematic random sampling was undertaken by creating a list of public primary schools per subcounty. An interval number of 10 was selected randomly and used determine a list of schools that will be the representative sample. Through this strategy, 78 schools were selected from across the 10 sub-counties. The respondents were comprised of the 319 school heads and their deputies, 10 subcounty education officers, 10 sub-county quality assurance officers, 1 officer from KICD and 1 county director of education. Hence the total number of respondents for this study was 350. In descriptive research, a sample size of 10-50% of the total population is acceptable (Mugenda & Mugenda, 2003). Therefore, this study included 16% of the target population from Bungoma County.

#### **DataCollection Instruments**

Questionnaires, interview guides and the document analysis guide were used to solicit data on the level of preparedness in transitioning from 8-4-4 to CBC from the target population. Both structured and unstructured questionnaires were used as a means of data collection in order to test the stated hypotheses. According to Kothari (2004), structured questionnaires involve definite, concrete and pre-determined questions. The questionnaires used for this study included both closed and open-ended questions and will solicited information relating to the three levels of preparedness (attitudes, conditions, resources and infrastructure) as cited in the conceptual framework. The questionnaire also included a likert scale to interrogate the attitude aspect.

According to Wikipedia (2010), the likert scale is referred to as a psychometric scale. It is very commonly and widely used in research survey and is used to determine the level of agreement to a statement. This is due to the fact that structured questionnaires are considered inappropriate in investigations where the aim happens to be to probe for attitudes and reasons for certain actions or feelings (Kothari, 2004). The questionnaires used for this study were short and simple. The questions proceeded in logical sequence moving from easy to more difficult questions. The questions ranged from dichotomous (yes or no answers), multiple choice (alternative answers listed) and open-ended.

An interview guide was also utilized in soliciting for structured responses where applicable. The interviews were administered to 9 sub county education officer, 9 sub county quality assurance officer, 1 officer from KICD and 1 county director and lasted for 10 minutes. Prior to the commencement of the interviews, the interviewer sought permission from each participant to take notes of the interviews. The interview items were mainly be derived from an interview guide prepared for the purpose of interrogating the study variables. The interviews responses were then transcribed and where relevant, quotations from the interview transcripts were used to support the results from the statistical analysis.

Document analysis is a form of qualitative research in which documents are interpreted by the researcher to give voice and meaning around an assessment topic (Bowen, 2009). This research incorporated document review and analysis of documents within the school setup as well as within the offices of the Ministry of Education officials. The documents to be reviewed ranged from; school textbooks with particular focus on the learning areas content for the lower primary education, school syllabus content, schemes of work, lesson plans, education policy manuals. A list of documents with potential of being encountered was generated, then a checklist of the components of each document was identified and utilized to assess the authenticity, credibility and reliability in line with the requirements of the CBC. Consequently, the document analysis worksheet shall be used when collecting and analyzing data. This study also used document analysis due to the fact that documents contain data that no longer can be observed, provide details that informants have forgotten, and can track change and development with regards to transition from 8-4-4 to CBC. Document analysis can also point to questions that need to be asked or to situations that need to be observed, making the use of document analysis a way to ensure research is critical and comprehensive (Bowen, 2009).

### Validity and Reliability

To ensure content validity of the questionnaires that will be used for the study, the items in the research instruments will be shared with the research supervisors to ensure accuracy in capturing the data required for the study. According to Cooper et. al., (2006), a pilot should be conducted to detect the weakness in design of an instrument to provide proxy data for selection of a probability sample. In conducting a pilot, the content validity index (CVI) developed by Waltz and Bausell (1983) will be used to rate each item in the research instruments for relevance, clarity, simplicity and ambiguity on a four-point scale given in the table below.

**Table 2:-** Criteria used for determining content validity.

<b>Criteria</b>	<b>Rating</b>
Relevance	1=not relevant 2=item need some revision 3=relevant but need minor revision 4=very relevant
Clarity	1=not clear 2=item need some revision 3=clear but need minor revision 4=very clear
Simplicity	1=not simple 2=item need some revision 3=simple but need minor revision 4=very simple
Ambiguity	1=doubtful 2=item need some revision 3=no doubt but need minor revision 4=meaning is clear

Based on the ratings, the supervisors gave their advice on how to improve the research instruments before data collection.

To determine the reliability of the research instruments, the study respondents were issued with questionnaires for them to fill. The same questionnaires were again be subjected for retest within a period of one month. After the two tests, the Pearson's Product Moment Co-efficient was computed to establish the correlation coefficient. According to Mugenda and Mugenda, 2003, a correlation co-efficient of 0.7 or above will be considered appropriate and hence reliable for collecting data. The reliability coefficient obtained was 0.78 after pretesting the questionnaires for reliability on 12 public primary schools in Bungoma County. The number 12 was chosen for pretest as it is the smallest number that could yield meaningful results in data analysis of a survey research (Mugenda and Mugenda, 2013).

### **Data Analysis**

The data analysis was based on both qualitative and quantitative approaches by use of descriptive and inferential statistics. The collected data was thoroughly checked and examined for completeness and comprehensibility. The data was summarized, classified, coded and entered to ensure better and efficient analysis. The coded data was entered into the Statistical Package for Social Sciences (SPSS) for analysis. Descriptive statistics was computed to obtain a general understanding of the institutions and respondents characteristics whereas inferential statistics was used to test the hypothesized relationships so as to make generalizations of the findings.

To determine the relationship between the dependent and independent variables, the chi-square test statistic  $\chi^2$  which is a nonparametric test of significance was used due to its appropriateness as the data was in form of frequency counts occurring in two or more mutually exclusive categories. Further, in determining the significance, the calculated Chi-square value was deemed significant by comparing it with the value from table and whenever the calculated value exceeded the table value, the difference between the observed and expected frequencies was taken as significant otherwise it is was considered insignificant.

### **Findings**

In determining the available teaching and learning resources available to facilitate transition from 8-4-4 to CBC in Bungoma County, the researcher interrogated the teachers on whether they were in possession of copy of new syllabus as well as, library with upgraded teaching and learning material, digital devices for learning i.e., computers, tablets and if learners came with required stationery. Additionally, the researcher also established if the teachers had undergone training. Below are the findings based on the teacher's feedback.

The findings of the study established that majority of the teachers 133 (76%) out of 175 teachers represented underwent training on the CBC. Further, the table shows that 23 (13%) of teachers represented did not undergo the training. The study further revealed that all of the school heads 319 (100%) represented underwent training on the CBC.

On possession of a training strategy for the school, of the 319 headteachers, 188 (58%) had a training strategy in place for up-skilling the staff while 131 (41%) did not have a training strategy. Further, on possession of a library with upgraded teaching and learning material 76 (43%) of the teacher respondents acknowledged that they have a library with CBC upgraded teaching material while the larger percentage represented by 80 (45%) did not have a library with upgraded teaching and learning material.

On availability of digital devices for learning, majority of the 175 teachers represented by 107 (61%) acknowledged that they had digital devices for learning in their schools while (28%) of the teachers did not have digital devices to facilitate learning in their school.

Further, in seeking to establish if learners came to school with the required stationery to facilitate their learning process as per the requirement of the CBC, the study established that a vast majority of 175 respondents 93 (53%) had learners who did not come to school with the required stationery. Further, 63 (36%) indicated that their learners came to school with the required stationary.

In establishing the relationship between possession of a training strategy and transition from 8-4-4 to CBC, a chi square test was conducted and revealed that ( $\chi^2 (319, 1) = 24.784^a$ ,  $p=0.000$ ) at  $\alpha =0.05$  there is a statistically

significant relationship between possession of a training strategy and transition from 8-4-4 to CBC. The study therefore rejected the null hypothesis thus indicating that possession of a training strategy is important in facilitating the transition from 8-4-4 to CBC.

On the relationship between possession of digital devices for teaching and learning and transition from 8-4-4 to CBC, a chi-square test was used to reveal that ( $\chi^2 (152, 1) = 7.519, p=0.006$ ) there is a statistically significant relationship between possession of digital devices for teaching and learning and transition from 8-4-4 to CBC thereby rejecting the null hypothesis. This result further indicates that possession of digital devices for learning is important in facilitating the transition from 8-4-4 to CBC as digital literacy remains one of the competencies recommended for educators in Kenya's CBC as it is geared towards preparing learners for the 21st century skills.

In establishing the relationship between training status and transition from 8-4-4 to CBC a chi square test was used to reveal that ( $\chi^2 (154, 1) = .021^a, p=0.886$ ) at  $\alpha = 0.05$  there is no statistical relationship between training status and transition from 8-4-4 to CBC. As a result, on the premise of training status, the study failed to reject the null hypothesis thereby indicating that whether one is trained or untrained is not, was not a useful determinant of the pace of transition.

On the relationship between learners possession of required stationery and transition to CBC a chi square test revealed that ( $\chi^2 (317, 1) = 7.637^a, p=0.006$  at  $\alpha = 0.05$  there is a statistically significant relationship between learners coming to school with CBC required stationery and transition from 8-4-4 to CBC. As a result, the study rejected the null hypothesis thus indicating that the possession of required stationery by learners is critical in facilitating the transition from 8-4-4 to CBC.

On establishing the relationship between general adequacy of physical resources and transition from 8-4-4 to CBC, a chi square test was used to reveal that ( $\chi^2 (152, 1) = 17.282^a, p=0.000$  at  $\alpha = 0.05$  there is a statistically significant relationship between adequacy of physical resources and transition from 8-4-4 to CBC. As a result, the study rejected the null hypothesis thus indicating that indeed, the availability of physical resources is critical in facilitating the transition from 8-4-4 to CBC.

## Discussion:-

### Possession of training strategy

The chi square results which showed that there is a statistically significant relationship between possession of a training strategy and transition from 8-4-4 to CBC indeed indicates that possession of a training strategy is important in facilitating the transition from 8-4-4 to CBC. According to figure 3 responses in as much as 58% of respondents indicated that they had a training strategy for the school, a whopping 41% indicated that they did not have one.

**Figure 3:-** School heads responses on possession of a training strategy.



The organizational commitment to change or a schools commitment in transitioning from 8-4-4 to CBC is a state in which the employees identify with their organization change goals. According to the recommendations by a study conducted by Montana and Malatjie (2019) on job satisfaction and attitudes towards organizational change, an organization must develop a new vision and a new faith in the workforce before it can approach the organizational change process. Hence the need to adopt internal change strategies for the school which incorporate training strategies/plans. On the flip side, it is well acknowledged that 58% of the respondents had a training strategy. This made it easier for them to cascade the learning's received on the CBC by the teachers who had an opportunity to undertake the CBC training provided by the MoE. Accordingly, Hollnagel et al. (2011) indicates that in France, there exists a transitional education plan (TEP) which is a national policy instrument, developed under the leadership and responsibility of state authorities (national or regional). A TEP enables the state and its partners (development, humanitarian, and civil society) to develop a structured plan that will maintain progress towards ensuring attainment of longer-term and short-term educational goals such as training of implementers. Further, he adds that in order to avoid working at cross purposes, a school or educational organization or government ministry of education ought to undertake bestpractice learning through benchmarking visits to other countries/schools (Hollnagel et al., 2011)

In this study, possession of a training strategy was used as one among other resource variables and it was clear that there is a statistically significant relationship between possession of a training strategy and transition from 8-4-4 to CBC. The availability of a training strategy will also foster lifelong learning opportunities for instructors and therefore the Government of Education ought to plan for policies which advocate for self-paced learning for the education stakeholders' lifelong learning. According to (UNESCO, 2020), quality and affordable education (along with the fight against hunger and environmental challenges) are the key priorities of the United Nations in 2020. UNESCO believes that inequality in education could be eliminated through the application of online technologies, namely, services for distance learning. The World Forum (WEF) released the Education 4.0 framework to respond to the needs of the modern economy. The program involves the launch of the international knowledge marketplace, where educators can create joint projects on online platform. Personalized and self-paced learning – content that is based on the diverse individual needs of each learner and flexible enough to enable student to progress at their own pace. This among other best practices may be considered in development of a training strategy that can be adopted country wide.

### **Digital devices for teaching and learning**

The chi square results which showed that there is a statistically significant relationship between possession of digital devices for teaching and learning and transition from 8-4-4 to CBC indicates that possession of digital devices for learning is important in facilitating the transition from 8-4-4 to CBC. Digital literacy remains one of the competencies recommended for educators in Kenya's CBC as it is geared towards preparing learners for the 21st century skills. According to Njoroge, (2020) key note address on Kenya's digital transformation journey, digitization is the next frontier for placing citizens at the heart of anynation's development (Njoroge, 2020).

In a research conducted by Maina&Gioko, (2019), to investigate digital literacy enhancement status in Kenya's CBC, there is need to interrogate possible factors resulting to low implementation beyond devices and educator preparation with virtual support. The aim of their research was to determine the level and frequency of embedding the digital literacy abilities after the teachers and school leaders in a 3-day preparation and 8 weeks of implementation with virtual support through Communities of learning. They conducted a survey which evaluated the seven abilities based on the level and frequency of implementation and revealed from their findings that there was a correlation between the level and the frequency of implementation. They noted that all abilities where at developing stage on average and concluded that despite the deployment of devices there is still very low implementation of digital literacy (Maina and Gioko, 2019).

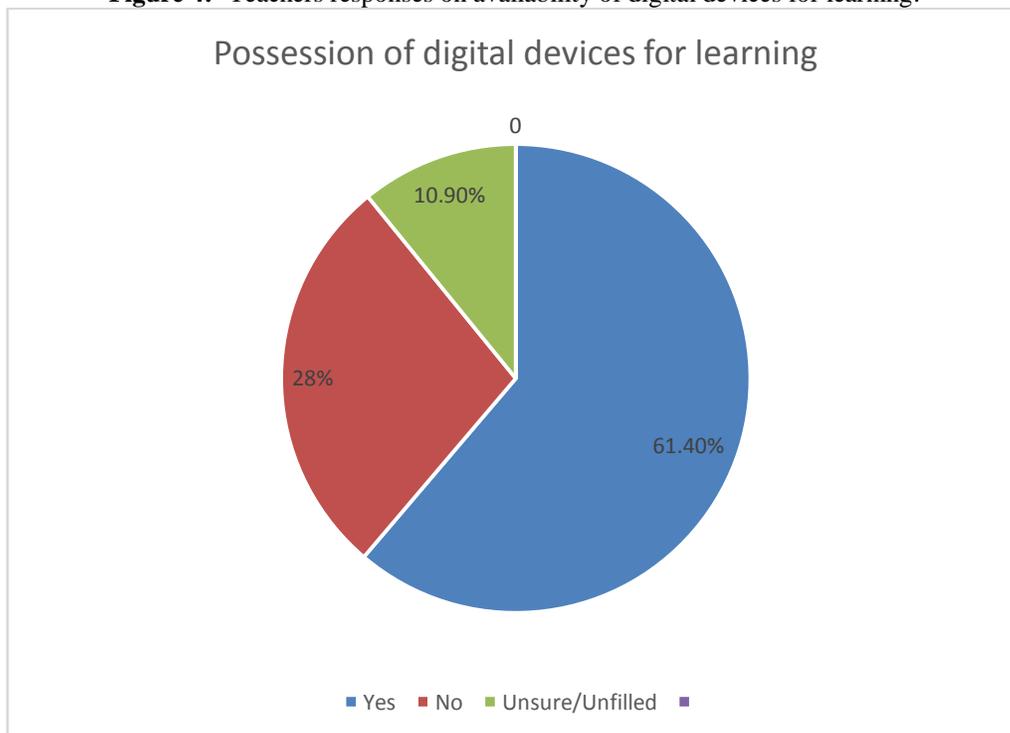
Teachers are overwhelmed and are often dealing with a diverse learner population, adapting to new use of technologies in classrooms and the demands of excellence from across society. A multi-prolonged approach that galvanizes all stakeholders hasa high probability of sustaining a healthy education sector (Fullan & Fullan, 1993). Consequently, the Kenyan government should consider putting up at least one library/study center in a central point in each subcounty with required teaching and learning resources to allow easy access to CBC books and digital devices for learning among other resources.

According to Conrad and Donaldson (2011), the technological experience of teachers in an online environment is also one of the challenges that determine the smoothness of instructional activities. The emphasis on the duties and

obligations of teachers in teaching and the ability of teachers to understand ICT have impacted the success of online learning. Teachers who do not have online teaching experience or have difficulty running technology and information tools will usually find it challenging to carry out online learning. Even teachers who have teaching experience or senior teachers can find it difficult to run applications. This condition becomes a burden for teachers in implementing instruction, so learning is not optimal. For teachers who master applications, technology tools, and computers, online learning can be an effective instructional method to use (Conrad and Donaldson, 2011).

It is important for the MoE to intervene in unique cases which lack digital devices for teaching and learning in order to foster equity. In reference to figure 4 below on the availability of digital devices for learning, it is worth noting that in as much as majority of the respondents (61%) indicated the availability of digital devices for learning, the (28%) who did not have remained disadvantaged.

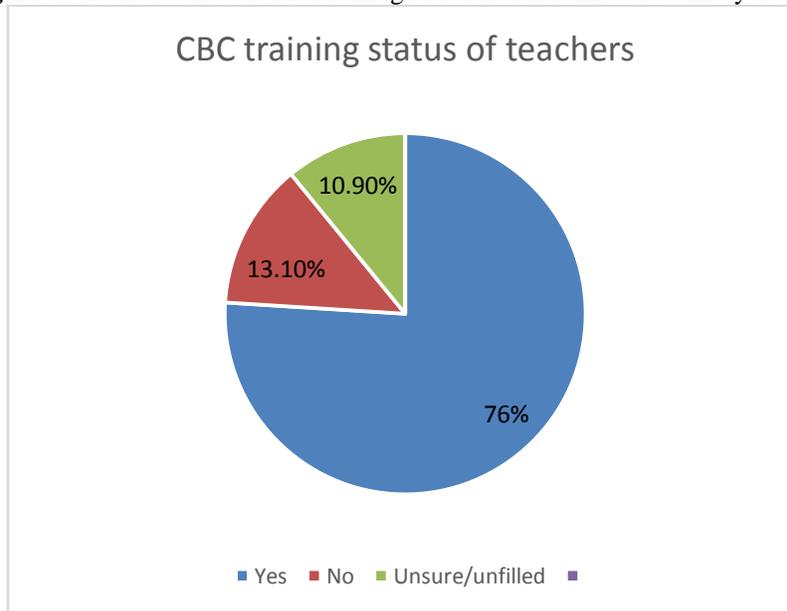
**Figure 4:-** Teachers responses on availability of digital devices for learning.



The disparity depicted in figure 4 above could be similar to the one articulated in the Ministry of Education, Science, and Technology basic education statistical booklet of 2014 whereby adoption of ICT in Tharaka Nithi County was reported as low due to an array of factors such as; lack ICT infrastructure and equipment as a result of lack of commitment by the government and or inadequate trained teachers in relation to ICT (MoEST, 2014). With the reported congestion in classrooms, the Government should consider putting up at least one library/study center in a central point in each sub county with required teaching and learning resources to allow easy access to CBC books and digital devices and internet connectivity for teachers and learners among other resources. This would enable pupils from poor backgrounds who are unable to meet the resource requirements to interact with the learning resources and schools which lack connectivity and/ or power supply to meet the requirement of CBC as a temporary measure.

#### **Teachers training status and transition to CBC**

In reference to the feedback from respondents on whether they had undergone training on the competency-based curriculum and findings presented figure 5 below, majority of teacher respondents were trained and all of the school heads had undergone training. However, on further inquiry pertaining to the pace of transition, majority of respondents expressed their displeasure by indicating that it was slow.

**Figure 5:-** Distribution of the CBC training status of teachers in Public Primary Schools.

The chi-square results ( $\chi^2 (154,1) = 0.21, p = 0.886$ ) at  $\alpha = 0.05$  showed that there is no statistical relationship between teachers training status and transitioning from 8-4-4 to CBC thus indicating that whether teachers are trained or not is not important in deciding the pace of transition. Therefore, education stakeholders should not base on training status alone when planning for transition from 8-4-4 to CBC. According to a research report on the teacher preparedness in the implementation of the CBC in pre- primary and lower primary grades in Kenya by KNUT (2019), findings from the sampled 405 schools indicated a major deficit of CBC in PP1, PP2 and Grade Three and 77.4 per cent of the sampled lacked at least one CBC trained teacher in one of the grade. Further, the findings indicated that most schools have only one trained teacher in the CBC with a learner population of 40-79 pupils per stream and more than one stream from PP1- Grade three.

Additionally, it was reported that training was conducted mainly for two-three days only for only one week instead of the stipulated five days per week contrary to the stipulated period, hence giving teachers a raw deal (KNUT, 2019). Carla and Vander (2018) observed that for CBC to be effectively implemented, the teachers need professional development and capacity building. The CBC approaches give teachers the different role of guide and shift instructions where learners are to be given adequate practices to enhance the attainment of competence. Teachers' reality and experiences have to streamline to fit the CBC mode of teaching (Carla and Vander, 2018). This therefore means that indeed training there is need for refresher training and that other factors besides training are a determinant of transition and ought to be considered. Teacher resources is a vital input into the education process as teachers are responsible for the delivery of the curriculum and hence are critical in determining the quality of education. Every education system is only as good as the teachers who provide the hands-on schooling. Study after study has confirmed their critical role in improving education quality and learning outcomes, which is why SDG 4 calls specifically for a major increase in the supply of qualified teachers and more support from the international community for teacher training in developing countries (UNESCO, 2016).

In view of the findings that shows that there is no statistical relationship between teachers training status and transitioning from 8-4-4 to CBC, It is noteworthy that any change/ transition requires a transition plan to familiarize stakeholders with the new changes. According to a study conducted on teacher preparedness for implementation of competency-based curriculum in private pre-schools in Dagoretti North sub county, teachers expressed their concerns over limited in-service training in addition to minimal training in the competency-based curriculum (Ondimu, 2018). The mentioned challenged ought to be resolved among others such teacher task management for successful transition from 8-4-4 to CBC. As reported in table 4.18 and 4.19, majority of teacher respondents were trained and all of the school heads had undergone training. Nevertheless, in spite of the training, many teachers felt that the system has tripled their work as they were required to keep the records of each child as marks are not awarded based on academic output only but on extra curriculum activities as well. These sentiments are similar to Otieno and Onyango's submission that the CBC had come with new costs that had to be endured by the parents (Otieno and Onyango, 2019).

### Possession of required stationery

The chi square results ( $\chi^2(317, 1) = 7.637^a$ ,  $p=0.006$  at  $\alpha =0.05$  conducted to determine the relationship between possession of required stationery and transition from 8-4-4 to CBC showed that there is a statistically significant relationship between learners coming to school with CBC required stationery and transition from 8-4-4 to CBC. As a result, confirmed that the possession of required stationery by learners is critical in facilitating the transition from 8-4-4 to CBC. This notwithstanding, findings from this study indicated that majority of learners did not come to school with the required stationery. This finding is also in line with the sentiments of one school head during an interview who said:

‘...most of our pupils are from poor backgrounds and are not able to meet the resource requirements as their parents and guardians are not capable due to poverty levels.’ (School Head 16)

According to Muya, (2000), the 8-4-4 system became the subject of national debate since its inception and was criticized for being broad, expensive and burdensome to pupils and parents. In as much as adjustments were made to the system for it to be more accommodative and several commissions were formed with the view of improving the system such as; The Wanjigi Report (GoK, 1983); The Kamunge Report (GoK, 1985), The Mungai Report (GoK, 1995); The Ndegwa Report (GoK, 1991) and The Koech Report (GoK, 1999). A majority of these reports were either rejected or partially implemented. In view of this, there is need for adoption of policies that would ensure a waterproof transition from 8-4-4 to CBC to avert the historical failures being repeated in implementing the CBC.

These findings also correspond to the findings by an exploratory study conducted in Sabatia sub county (Vihiga) and Kakamega Central (Kakamega) on the teacher-parent nexus in the competency-based curriculum success equation in Kenya, a sample of 56 participants were involved in the study undertaken by Amunga et al (2020). In view of the findings conducted in Sabatia sub county (Vihiga) and Kakamega Central (Kakamega) on the teacher-parent nexus in the competency-based curriculum success equation in Kenya, it was revealed that although the CBC in Kenya sustained interest in learning, there still existed many challenges such as; lack of materials, parental support, time, curriculum structure and class size among others.

With regards to stationery, majority of the respondents who were teachers (40; 90.89%) expected parents to provide materials for practical lessons as they were of the view that, all learning areas have practical lessons with specific material requirements. For example, drawing and coloring require drawing books, pencils, crayons and colored pencils; when they are learning hygiene and taught how to brush their teeth, the parents have to provide tooth brushes and tooth paste; an item of crockery may be required to practice cleaning. The list of activities is actually endless and parents’ cooperation is very important. An example was cited where a teacher respondent said learners may be required to learn how to wash an item of crockery and this meant that parents should allow their children to carry cups, plates to school as need arises. The study further recommended sensitization of parents on the CBC and their roles in addition to schools maintaining an optimum class size, government to provide adequate funding and TSC to improve staffing in public schools. The addition of talent schools was also recommended (Amunga et al, 2020).

### Adequacy of physical resources

A chi-square test was conducted to determine the relationship between the adequacy of physical resources and transition from 8-4-4 to CBC. The findings are presented in table 3 below

**Table 3:-** Relationship between adequate physical resources and transition to CBC.

	Value	Df		Asymp. Sig. (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	17.282 <sup>a</sup>	1		.000		
Continuity Correction <sup>b</sup>	15.789	1		.000		
Likelihood Ratio	17.331	1		.000		
Fisher's Exact Test					.000	.000
Linear-by-Linear Association	17.168	1		.000		
N of Valid Cases	152					

In view of the chi square results ( $\chi^2(152, 1) = 17.282^a$ ,  $p=0.000$  at  $\alpha =0.05$  in table 3 which shows that there is a statistically significant relationship between adequacy of physical resources and transition from 8-4-4 to CBC, indeed, the availability of physical resources is critical in facilitating the transition from 8-4-4 to CBC. This finding

is in line with the views of Nsa et al (2012) that the availability of resources and facilities in a given school environment influences teaching and learning performance of both teachers and learners.

In a study conducted by Njoroge, (2002) on FPE in Kenya and determinants of the education budget, it was revealed that the government policies including Free Primary Education and cost sharing policies are important but no significant determinants of primary education budget. The study identified 5 main costs of primary education all over the world as; teacher salaries, learning and teaching materials and other non-wage costs. The main determinants of primary education budget in Kenya were cited as teachers' salaries, non-wage cost which includes development expenditures, total education budget and to some extent enrolments. The study cited inefficiencies in the allocation and utilization of financial, human and materials resources (Njoroge, M., 2002).

These sentiments can also be supported by a study conducted by Serem and Ronoh (2012), on the challenges faced in implementing free primary education for pastoralists in Kenya to evaluate the impact of an educational policy and find out how its implementation responds to challenges in provision of access to Primary Schooling. Serem and Ronoh (2012), determined that inadequate funding; poor infrastructure; limited awareness towards education; limited community support; insecurity and cattle rustling and lifestyle of pastoralists that impeded the government's efforts to attain FPE. It is therefore worth noting that in order to ensure successful implementation CBC physical resources should not be ignored. These challenges threatened the implementation of FPE for pastoralists and further illustrated the complex and messy process of policy implementation in education sector (Serem and Ronoh, 2012).

The findings of study conducted by Serem and Ronoh (2012) further highlighted that 90.6% of the participants agreed that inadequate funding posed a challenge in the implementation of FPE. As regard to other challenges in implementing FPE for pastoralists, the following findings were reflected: 85.3% felt that there was limited community support; 70% cited negative attitude towards education; 75.3% concurred that there was lack of social amenities; 90% were of the view that poor infrastructure hindered access to schools; 84.7% noted that there were limited physical facilities; 59.4% agreed that there were difficulties in the implementation of the curriculum; 65.3% noted that the school calendar was not suitable for pastoralist mode of living; 90% of the participants cited limited community awareness towards education as a major challenge (Serem and Ronoh, 2012). From the foregoing discussion, indeed the chi square results presented in table 4.14 presented as; ( $\chi^2 (152, 1) = 17.282^a$ ,  $p=0.000$  at  $\alpha =0.05$  indicate that there is a statistically significant relationship between adequacy of physical resources and transition from 8-4-4 to CBC. As a result, on the adequacy of physical resources, the study rejects the null hypothesis.

The role a well-equipped school environment play in the educational system cannot be over emphasized. Some of the importance of physical resources (school facilities), such as buildings, ventilated and spacious classrooms, furniture, instructional materials, electricity, toilet facilities, playing facilities, laboratories, libraries, aesthetics etc., as stated by Osuji (2016), are as follows; they creates conducive environment for teaching and learning, help the learners to develop skills through extra-curricular activities, motivate the school teachers in the execution of their duties, help in the retention of teachers through friendly teaching environment and good allowances, reduce vices, truancy and drop-outs among learners, provide room for researchers to carry out research, enhances the activities of teaching and learning while making room for continuity in education, helps to reduce the fear of insecurity in the school environment, gives job satisfaction to teachers while ultimately helping in the actualization of educational goals through learner's and teachers' high performance.

### **Recommendations and Conclusion:-**

Based on the findings of the study, the following are policy recommendations as well as recommendations related to practice:

1. This study recommends that the government should provide adequate and appropriate resources to all public primary schools across the country. Since the findings have revealed a statistically significant positive relationship between availability of school resources and transition from 8-4-4 to CBC, provision of such resources will realize better student academic experience in CBC and well as ease the teachers work in facilitating teaching and learning.
2. The education stakeholders in the Ministry of Education should consider a self-directed and cost-effective training and development program for school heads and their teachers as the CBC continues its reinvention amidst the changing times. This recommendation is motivated by the findings of the study that there is a statistically significant relationship between possession of a training strategy and transition from 8-4-4 to CBC.

The study further recommends that possession of a training strategy is important in facilitating the transition from 8-4-4 to CBC.

3. The education stakeholders in the Ministry of Education should consider improving school communications through the use of technology by providing easy access to up-to date digital resources for teaching and learning. They should also consider incorporating desired approaches to learning while refining the CBC to aligns with the emerging fourth industrial revolution which focuses on smart technology adoption while considering both online and offline approaches to learning.
4. Improvements and/or adjustments of the CBC based upon recent studies and changes occasioned by the pandemic and/or other factors. This may be done by development and adoption of a Transitional Education Plan (TEP) by education stakeholders which will serve as a national policy instrument, developed under the leadership and responsibility of state authorities (national or regional within the Ministry of Education). This will enable education stakeholders and its partners (development, humanitarian, and civil society) to develop a structured plan that will maintain progress towards ensuring attainment of longer-term and short-term educational goals to cushion all stakeholders in education in periods change and uncertainty. Such improvements may include making immediate provisions to adjust the physical environments to allow for social distancing and appropriate sanitation measures which lacked in most schools in addition to reimagining of how the school year is structured for a healthy teaching and learning cycle favorable to both teachers and their pupils.
5. Parents and surrounding community should be sensitized on the nature of the CBC so as to support by providing the required environment for learning. It emerged that some schools found it almost impossible to expose their pupils to required activities for learnings such as visiting nearby supermarket, historical site and market. Further, it was also established that most parents did not provide their children with required stationery.
6. Government should consider putting up at least one library/study center in a central point in each sub county with required teaching and learning resources to allow easy access to CBC books and digital devices for learning among other resources. This recommendation is occasioned by the findings that most schools lacked a library with upgraded teaching and learning material. In addition, the study also found out that due to the large populations of pupils per classroom the digital devices for learning were inadequate. This would enable pupils from poor backgrounds who are unable to meet the resource requirements to interact with the learning resources and schools which lack connectivity and/ or power supply to meet the requirement of CBC as a temporary measure
7. Continuous learning by all education stakeholders to enhance resilience in periods of change such as the unforeseen change in teaching during the coronavirus pandemic. It's worth noting that the pandemic can be characterized as a colossal and complex issue, with many different things to take into consideration, and even well-experienced teachers felt that they had to learn what and how to teach (Bergdahl, N. 2020). The teacher's attitudes and perspectives should be considered major subjects of investigation during the educational changes as educational change depends on what teachers do and think.

In reference to the findings of the study, it can be concluded that the lack of adequate resource variables accounted for the slow pace of transition compared to attitude and condition variables. The discrepancy with regards to the lack of adequate resources can be attributed to lack of proper change management with regards to transition and therefore the National government, County government, educational planners, principals and School Boards of Management ought to intervene by incorporating change management strategies to spur the CBC change management process which was hurriedly undertaken. Failure to take action as per the suggested recommendations may lead to system and policy failure and the CBC may not take root like other preceding policies in the education sector.

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