SCHOOL RELATED FACTORS INFLUENCING EFFECTIVE IMPLEMENTATION OF GRADE ONE COMPETENCY BASED CURRICULUM IN MBOONI EAST SUB-COUNTY, MAKUENI COUNTY, KENYA

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A Research Project Submitted to the School of Education in Partial Fulfillment of the Requirement for the Award of Masters' Degree in Early Childhood Education of Machakos University

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DECLARATION

Declaration by Student

I declare that this research project is my original work and is by no means a duplicate of any other person's work. It has not been presented for any other study programme in any other university.

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Approval by the Supervisors

We confirm that the work presented in this research project was carried out by the candidate under our supervision as university supervisors.

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DEDICATION

I wish to dedicate this research study to my beloved husband, Justus Musyoki, who has been instrumental to my success and contributed immensely to the pursuit of my Master's degree in Early Childhood Education. This dedication also extends to include my children, Alvin, Jason, Godwill and Eliana, who kept me company during my studies.

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LIST OF ABBREVIATIONS AND ACRONYMS

CBC	Competence Based Curriculum
CBE	Competency Based Education
OBE	Outcome Based Education
CK	Content Knowledge
CSO	Curriculum Support Officer
DQAS	Directorate of Effective Assurance and Standards
EFA	Education for All
IBE	International Bureau of Education
ICT	Information and Communication Technology
IT	Information Technology
KBC	Knowledge Based Curriculum
KICD	Kenya Institute of Curriculum Development
NACOSTI	National Council of Science, Technology and Innovation
OBE	Outcome Based Education
PCK	Pedagogical Content Knowledge
PLC	Professional Learning Community
TSC	Teachers Service Commission
ECDE	Early Childhood Development Education
IBE	International Bureau of Education
UNESCO	United Nations Educational and Scientific Organization
TPACK	Technology Pedagogy and Content Knowledge
KNUT	Kenya National Union of Teachers
MDG	Millenium Development Goals
NCATE	National Council for Accreditation of Teacher Education
OECD	Organization for Economic Cooperation Development

ABSTRACT

The purpose of this study was to investigate school related factors influencing effective implementation of competence-based curriculum in Mbooni East Sub-County, Makueni County, Kenya. The study was guided by the following objectives: To determine the extent to which teacher characteristics influence effective implementation of competency-based curriculum; examine the extent to which the application of CBC pedagogy influences effective implementation of competency based curriculum; assess the extent to which learning support resources influences effective implementation of competency based curriculum; and evaluate the extent to which teacher's instructional support influences effective implementation of competency based curriculum in Mbooni East Sub-County, Makueni County. This study was guided by the Curriculum Implementation Theory and the Technology, Pedagogy and Content (TPACK) Model. The theory postulates that the success of any education programme is determined by the management of the support facilities, the teacher's ability and the clarity of the implementer. The model underscores role of Information Communication Technology and content mastery in implementation of any new educational programme. The study adopted a descriptive survey design and targeted a sample size of 77 respondents, who included head teachers, grade one teachers and the curriculum support officers from Mbooni East Sub-County, Makueni County using random sampling and census sampling techniques. A pilot study was done using 11 respondents from non-participating schools in the neighbouring Mwala sub-county. The research instrument included questionnaire, an interview guide and an observation checklist. Subject experts, were used to check the validity of the research instruments while test-retest technique was used to ascertain the reliability of the questionnaire. The researcher personally collected data using the drop-and-pick method for questionnaires, conducted interviews to key informants and also filled the observation checklist. Data was analyzed using both qualitative and quantitative techniques. Qualitative data was analyzed thematically along the specific objectives and presented in narrative forms whereas the quantitative data was analyzed descriptively using frequencies and percentages with the help of Statistical Packages for Social Sciences (SPSS Version 24) and presented using tables, charts and graphs.

CHAPTER ONE
INTRODUCTION

1.0 Introduction

This chapter is divided into several sections. These consist of the background of the study, the purpose of the study, objectives and the significance of the study. The chapter also includes operational definition of key terms used in the study. Delimitation and limitations of the study are also highlighted. Conceptual and theoretical frameworks are also presented.

1.1 Background to the Study

In the last twenty years, due to globalization, the nations of the world have become increasingly understood, more or less, as a community with one history, one place and one state. As Sundberg and Wahlstrom (2012) explain, this understanding can be said to also mean more or less overtly, the idea of a common life world in many respects. Today, in education, for example, a global education policy that has been circulating, transformed and/or borrowed between countries, has emphasized concepts such as 'competence', 'standards', 'school improvement', 'choice', and 'privatization'. If the premises essential to the global policy packages are carefully examined, it becomes comprehensible that they imply certain politics of knowledge that is, certain notions as to what counts as valid knowledge in this era and what teaching and learning must be like (Sundberg & Wahlstrom, 2012). The means through which these ideas broaden and become globalised include both networks and flow of ideas from sending countries or transnational organizations such as the World Bank, UNESCO, and the like, to countries that receive education policies (which may include both developed and developing nations) (Exley, Braun, & Ball, 2011, p.214).

In the movement towards standard-based, outcomes-based, and competence-based curricula, the transnational organizations and agreements, e.g. the Organization for Economic Cooperation and Development (OECD), UNESCO, Education for All (EFA) goals and the 2000 Millenium Development Goals (MDGs) have become increasingly imperative as actors, networks and shaping forces in curriculum reforms (see also Exley, Braun, & Ball, 2011). For example, the extension of Education for All (EFA) goals from equal access to education towards quality learning (especially after the 2000 Dakar conference) has influenced and accelerated curriculum reforms in most countries of the world (Chisholm & Leyendecker, 2008; UNESCO, 2000). In Sub-Saharan Africa (henceforth SSA) the curriculum reforms hassled two major things: i) the need of changing curriculum contents to make them more relevant both in local and global contexts in terms of sought-after competences for the work situation and everyday life; ii)changing the teaching-learning process into more learner-centered approaches (UNESCO, 2000). As a result, curriculum policies adopted by most countries in SSA in the late twentieth and early twenty-first centuries are based on outcomes- or competence-based curricula as well as on learner-centered pedagogy. These policies are anticipated to move education away from a transmission paradigm based on rote memorization and the repetition of content to a vision of education based on meaningful, relevant, as well as applicable learning in everyday life and work situations (Chisholm & Leyendecker, 2008).

In SSA countries, the global educational vocabulary of a 'knowledge economy' also affected Tanzania and thus necessitated changes in curriculum orientation. In the early 2000s Tanzania improved her curricula at primary, secondary and teacher education levels in order to provide education that prepares persons who can fit into today's world

of work and who can deal with the rapidly growing socio-economic, scientific and technological developments which are taking place at global, regional, and national levels (Ministry of Education and Vocational Training [MoEVT], 2007a, 2007b; United Republic of Tanzania [URT], 2014). This improvement involved a change from content-based teaching to CBC, underlined by a shift paradigm from traditional to a more progressive view of education. The traditional view (which underpins content-based curricula) focuses on knowledge acquisition as the main goal of education. This view leads to a conventional concept of knowledge as school-based or discipline-based, and does not persist on the integration of school knowledge and real-life situations. On the other hand, the progressive view stresses that knowledge should be pertinent in solving real problems. It stresses knowledge in the context of its application (cf.Ornstein & Hunkins, 2013).

The fast and complex changing world coupled with dynamic technological advancements and great need for skilled manpower in the labor market within an ever growing world economy has brought new challenges and requirements in the education sector (Mulenga and Kabombwe, 2019). The role of education in many countries in Africa after they attained independence was to impart enough knowledge to their citizens to help them take up positions in various sectors to help the in running of the countries. However, this has been an emerging challenge because of the growth in both knowledge and information hence there is need for education to provide the best knowledge which can be used effectively. Education is a vehicle for social and economic change. Countries with superior growth of education systems have registered impressive economic and technological advancement. It is imperative therefore that

curriculum is constantly reviewed to keep abreast with the demands of the present society.

In Kenya, three fundamental education reforms have been undertaken since independence upon the recommendations made by various commissions. The first commission was chaired by Professor Simeon Ominde hereby referred to as the Ominde Commission and its mandate was to critically examine the then education system that had been inherited from the colonial government and formulate policies that would meet the needs of an independent Kenya. The commission proposed an education system that would promote national cohesion and unity and also build sufficient and skilled human capital for national development. Some of the other recommendations of the commission were: introduction of universal primary education which was not implemented until 1974; adoption of the 7-4-2-3 structure of the education system; establishment and regulation of 'Harambee' schools; singing of the Kenyan national anthem in schools and raising of the Kenyan flag in schools; the curriculum was to emphasize more on practical subjects in order to produce the much-needed labor force.

The commission further recommended for the establishment of East African Examinations Board to replace the Cambridge University Local Examinations Syndicate. It further recommended the creation of the Kenya Institute of Education (KIE) the current Kenya Institute of Curriculum Development (KICD), (Mackatiani et al., 2016). However, the system ended up producing more of white-collar employees than blue-collar employees because of the prestige that was attached to the white-collar jobs. So, more people opted for formal white-collar training such as public administration rather than go for blue-collar jobs training such as the technicians,

according to Okech andAsiachi (1992). The system became too academic and elitist and failed to deal with the needs of the labor market, Simiyu, (2001).

The second Commission was constituted in 1976 and chaired by Peter Gachathi (then Permanent Secretary in the Ministry of Education) hereby referred to as the Gachathi Commission whose mandate was to define the national development and educational objectives. The commission was known as the National Commission on Educational Objectives and Policies (NCEOP). The commission recommended for the promotion of values such as political effective, cultural heritage and religious freedom as some of the educational objectives. As pertains to curriculum, the commission advocated for the revision of the curriculum in order to make it more practically oriented so that it can address the needs of the labour market because unemployment had begun soaring to worrying levels. The commission recommended that primary education should be free of charge and that more emphasis should be placed on the teaching of science subjects in schools and vocational subjects in agricultural, business and technical fields, as cited by Kisilu, (2004).

The third education commission was appointed in 1981 and steered by Mackay hereby referred to as the Mackay Commission whose main task was to evaluate the higher education in the country with regard to enabling opportunities for rural development and also advising on the establishment of a second technology-based university in the country. The commission's report led to the establishment of Moi University which was to train students mostly in technology and pure and applied sciences. The commission further underscored the need for a practical knowledge and life-long skills and more emphasis on subjects such as agriculture, business and sciences for the sole purpose of producing graduates who can be self-employed. The commission proposed a change of

the education system from 7-4-2-3 to 8-4-4 which was effected in 1985. This system was to emphasize more on practical and skill-oriented subjects thereby making mathematics and sciences as compulsory subjects in secondary schools. The system was meant to equip students with employable skills so that they can be self-employed at any level of academic attainment. However, the new system proved to be very costly in terms of its implementation triggering the adoption of the cost-sharing policy where parents were forced to meet the costs of running the schools. The system also proved to be content-heavy and too broad to the students and very expensive for parents, Chisaka, (2003).

In 1988, the government constituted another commission led by Koech. The Koech Commission was to obtain views and appraise the status of the 8-4-4 curriculum. Though the findings of the commission were not fully disclosed due to political reasons, the government in 2001 decided to lessen the burden of the 8-4-4 subjects by reducing the number of examinable subjects in primary and secondary school. However, clamor for educational reforms continued which led to the massive re-structuring of the system both in structure and nature that ultimately resulted to the beginning of the competency-based curriculum (CBC) from 2017. The 8-4-4 system has been criticized as placing much emphasis on content recall and exam oriented. The system taught students to cram and pass examinations. Critics of the system felt that it doesn't allow students to identify their talents and exploit them early enough (Wanzala, 2018). Competency based curriculum on the other hand place emphasis on attainment of relevant skills as opposed to academic certificates.

The Competency-Based Curriculum (CBC) reforms were initiated by the Kenyan Institute of Curriculum Development (KICD) as a result of the findings from a needs

assessment that was done in 2016. Soon after the assessment, the UNESCO International Bureau of Education (IBE - UNESCO) trained teachers on CBC. KICD postulates that competency is the ability to apply outcomes and learning resources. These are skills, knowledge, attitudes and values. These can be contextually defined as education, personal, work or professional development (UNESCO, 2017). This curriculum reform was led by the vision "Nurturing every learners' potential" to produce learners that possess appropriate and high degree knowledge that comprises of country's values and social competence (Kenya Constitution, 2010). Learners are also expected to be equipped with these 21st century competencies and skills (Vision 2030), Kenya as a country thereafter undertook comprehensive reforms on the its curriculum. Training on educational matters in Kenya shifted to and focused on education activities that give support to maximum development of human resources. Advocates of these changes assert if learners are not taught in these critical skills, they may finally be omitted from vigorous engagements in their communities. In check with education international trends, it was vital for Kenya to match itself with this prototype.

Some policy documents that came about after the 2009 summative assessment exuded gaps in the previous curriculum that included:- the curriculum for rudimentary education was not in line with the requirements of the Constitution of Kenya and the Kenya Vision 2030; the appropriateness of the curriculum for some education levels as for the learners' age; the previous curriculum did not cater for vital pathways and thus obstructed development of talents and individual interest ; that the education form framework is not flexible and does not ease entry and re-entry at different education levels. Kenya still did not have enough skilled manpower to spur economic growth and move it towards industrialization as visualized in the Kenya Vision-2030. There was

therefore a requirement to give rise to graduates who will be aggressive in the world through a reform in education (UNESCO, 2017).

Tanner (1980) defined curriculum as "the planned and guided learning experiences and intended outcomes, formulated through the systematic reconstruction of knowledge and experiences under the auspices of the school for the learner's continuous and willful growth in personal social competence" (p. 13).Goodland and Su (1992) define curriculum as a plan that consists of learning opportunities for a specific timeframe and place, a tool that aims to bring about behavior changes in students as a result of planned activities and includes all learning experiences received by the students with the guidance of the school. Cronbleth (1992) defines curriculum as answering three questions: what knowledge, skills and values are most worthwhile? Why are they most worthwhile? How should the young acquire them?

Mosha (2012) posit that that a competency-based curriculum is that curriculum that has outcome statements and indicates the competencies to be achieved and the expected behavior from students and gives expected behaviors or tasks and conditions for their achievements in addition to acceptable standards to be shared out to with learners. The goal of CBC thus is to encourage learners to attain identified abilities. Individual Learners behavior in the teaching and learning process is very important. The stress of CBC in evaluation is criterion-referenced. Therefore, a CBC curriculum that takes advantage on competency-based learning which centers on apprehension of the required concepts, attitudes and skills that require some paradigm shift in pedagogy, learning and evaluation strategies (Posner, 1995).

Afangideh (2009) describes the concept of curriculum implementation as the actual engagement of learners with planned learning opportunities. Esu, Enukoha and Umuhoven (2004) conceived curriculum as all learning experiences a child has under the guidance of a teacher. According to Offorma (2005), curriculum is a program which is made of three components; studies, activities and guidance. Alebiosu (2005) viewed it as an instrument that dictates the affairs of every educational system. It is the vehicle through which knowledge and other learning activities are disseminated. Zumwalt in Akwesi (2012) asserted that curriculum implementation is the practical application of theory into practice in a way that the eventual outcome is evidenced through the learner's performances in and outside the classroom.

Curriculum implementation is the translation of a written curriculum into classroom practices. Implementation takes place as the learner acquires the planned or intended experiences, knowledge, skills, ideas and attitudes that are aimed at enabling the same learner to function effectively in a society. Implementation takes place when the teacher constructed designs; teacher personality, the teaching materials and the teaching environment interact with the learner. Curriculum implementation therefore refers to how the planned or officially designed course of study is translated by the teacher into designs, schemes of work and lesson plans to be delivered to learners. There are factors that influence the implementation of the Competency Based Curriculum. These factors among others include teacher characteristics, teacher's pedagogical knowledge, available infrastructure and instructional support.

1.2 Statement of the Problem

The government of Kenya through the Kenyan Institute of Curriculum Development (KICD) adopted a competency-based curriculum (CBC) to be implemented in all public schools in the country on a gradual basis starting from the pre-school. The CBC is meant to equip learners with 21st century skills and competencies so that they can be relevant in the job market. For smooth and effective implementation of the new curriculum, teachers should be adequately equipped and prepared through in-service training. As far as the instructors in Kenya were given a comprehensive training on this outlook by UNESCO International Bureau of Education and other specialists, this training was for senior education managers and policy makers and was not very effectively cascaded to the level of teachers who are the curriculum instructors.

Although the government in conjunction with the KICD and Teachers Service Commission had taught teachers on CBC, there is still a lot to be done since it was hastily done. It has been established that instructors in Kenya were found not to comprehend about CBC and it was anticipated that this going to complicate successful implementation of CBC in schools. The report also alluded to the fact that instructors were anticipated to face some challenges on understanding and interpretation of content to the students because of the little training that had been carried out. Makueni County, particularly Mbooni East Sub County has many primary schools. Most of these schools are in rural environments that are unfavorable to children's education, making it challenging to introduce a new curriculum to both the teachers and parents. This therefore disadvantages some learners in the sub county. However much the teachers in Mbooni East sub-county would want to effectively implement the CBC, they are faced with challenges of not able to provide the necessary teaching/learning resources.

This necessitates an intervention that will enable the all stakeholder to effectively participate the CBC is effectively implemented, thus contributing to the wellbeing of the child holistically.This new curriculum was hurriedly implemented in order to maximize the benefits. Schools may not necessarily have been ready with infrastructure and teachers not fully prepared for it. The Competency Based Curriculum though the implementation is on-going, is a relatively new subject area with inadequate studies having been carried out to establish the actual level of preparedness and reality of whether there is effective implementation of the curriculum in primary schools in Kenya. Moreover, no research has been done in this area; as a result, the study looked teacher characteristics, application of pedagogy, learning support resources and teachers instructional support for effective implementation of CBC. This study therefore, sought to establish whether this school related factors influence the effective implementation of Competency Based Curriculum in grade one in Mbooni East Sub-County, Makueni County.

1.3 Purpose of the Study

The purpose of the study was to investigate school related factors influencing the effective implementation of the Competency Based Curriculum in Mbooni East Sub-County, Makueni County, Kenya.

1.4 Research Objectives

The study was guided by the following objectives:

i. To find out how teacher characteristics influence implementation of Grade One CBC in Mbooni East Sub-County, Makueni County.

ii. To examine the extent to which the application of pedagogy influences implementation of Grade One CBC in Mbooni East Sub-County, Makueni County.

iii. To assess how learning support resources influence effective implementation of Grade One CBC in Mbooni East Sub-County, Makueni County.

iv. To evaluate the extent to which teacher's instructional support influence implementation of Grade One CBC in Mbooni East Sub-County, Makueni County.

1.5 Research Questions

The following research question guided the study:

i. How do teacher characteristics influence implementation of Grade One CBC in Mbooni East Sub-County, Makueni County?

ii. To what extent does the application of pedagogy influence implementation of Grade One CBC in Mbooni East Sub-County, Makueni County?

iii. How do the learning support resources influence implementation of Grade One CBC in Mbooni East Sub-County, Makueni County?

iv. To what extent do teachers 'instructional support influence implementation of Grade One CBC in Mbooni East Sub-County, Makueni County?

1.6 Basic Assumptions of the Study

The following were the assumptions of the study:

i. All grade one teachers have adequate training on CBC implementation.

ii. All grade one teachers in schools targeted, were skilled and used ICT instruments in the students' instruction process.

iii. The knowledge to be received from the respondents will be the truth and not biased'

1.7 Significance of the Study

The data collected on the status of the implementation of the CBC in primary schools in Mbooni East sub-county, Makueni County was useful in that, the findings from the study may be useful to the curriculum developers at the KICD, the County government of Makueni, the policy makers at the Ministry of Education Science and Technology and other stakeholders in the education sector such as the development partners who will use the information to address the difficulties encountered during the implementation of the curriculum and which may hinder effective implementation of CBC.

As well the findings may also be useful to other grade one teachers because it may provide information on the instructional approaches to be utilized during the the teaching and learning process such as the importance for teachers to adopt ICT classroom tools as they shift from their traditional pedagogical approaches to modern approached of teaching. The findings may also be useful to the head teachers by informing them on the kinds of support, either infrastructural or leadership required for the effective and smooth implementation of the Competency Based Curriculum in their respective schools.

1.8 Delimitations of the Study

The study was carried out in grade one level in Mbooni East Sub-County, Makueni County. Only grade one teachers, head-teachers and CSOs were targeted respondents in the study. The information sought was received only fromregistered and trained and practicing teachers according to theregulations given by Teachers Service Commission

(TSC). The respondents were given an assurance that the information acquired was to be used only for educational and for the purpose of the study to be conducted. The study conducted was limited to the study objectives and the study tools used to collect data.

1.9 Limitations of the Study

There was bound to be some level of suspicion from respondents as some of them might not be willing to give some information that touches on their personal details and the status of the school ICT infrastructure. The researcher assured the respondents of their anonymity and confidentiality in as far as theirinformation is concerned. The schools were far apart from each other and there was a challenge of long distances as a result of poor road network. To deal with financial challenge, the researcher solicited for money from friends in order to cater for transportation issues.

1.10 Theoretical Framework and Research Model

1.10.1 Theoretical Framework

The research adopted the Curriculum Implementation Theory proposed by Neal Gross, (1971) in a book entitled "Implementing Organizational Innovations". The theory postulates that the success of any education programme is determined by a number of elements: the management of the support facilities, the teacher (tutor) ability; and the clarity of the implementer. The theory underscores the role of the teacher's attitude and competence in implementing any new innovations in the education sector. The theory further stresses that the implementers of any proposed changes in the curriculum should be fully informed on the intended changes that will be achieved in order for them to implement it effectively and sufficiently. However, for the teacher to achieve the intended aims of the curriculum changes there should be support from the management of the school and the policy implementers through the provision of the needed resources

and staff training in order to enhance their ability to deliver the contents of the curriculum to the learners.

The rationale for choosing this theory was that it proposes and underscores the resources or 'ingredients' needed to effectively implement a new curriculum. The teacher, who in this case is the main curriculum implementer, is placed at the centre of the entire process of implementing the new curriculum. The teacher should have the right competencies, knowledge, skills and attitude in order to be able to disseminate the new knowledge to the learners. This theory further underscores the important roles that other stakeholders play in the implementation of a new curriculum. For example, the government needs to train the teachers on the values, content, and new instructional approaches of the new curriculum while the school administration needs to provide the required support resources such as the teaching aids for effective instruction of the learners. Therefore, this theory is very applicable to the topic of study.

The Curriculum Implementation Theory was very relevant to this study in determining the role of school related factors in effective implementation of the competency-based curriculum in grade one in the entire country of Kenya. It highlights the ingredients needed to implement a new curriculum which are teachers' level of readiness for the adoption of the new curriculum and the provision of teaching resources, support materials and the attendant infrastructure by both the school management and the government. According to Omollo et al, (2016) resources include finances, teaching aids, learning and reading materials, stationery and other physical facilities such as classrooms and laboratories. The researchers add that there should be adequate funds set aside for training the teachers and acquisition of these curriculum support resources. This theory assisted to relate how the attitude, training and qualifications of the teacher

and other school-related factors such as the supervisory functions of the head teachers and the officers supporting the curriculum affect the effective implementation of the Competency Based Curriculum in grade one in Mbooni East Sub-County, Makueni County in Kenya.

1.10.2 Research Model

The research study was guided by TPCK (TPACK) model that supports the use of ICT in education. Its main aim includes knowledge and discussion of the interrelationships that exist between the main and critical among three maincomponents. These are pedagogy, technology and content. This framework was advanced by Koehler and Mishra (2005) to answer some questions about decision making and the integration of ICT that shows the representation of new ideas and needs, developing sensitiveness to dynamics, transactional relations between all the components mentioned above. Thompson and Mishra (2007) changed TPCK into TPACK. The new name, TPACK, doesn't just mean adding a vowel "A" to make it easier to pronounce but rather its deeper implication is to emphasize the necessity of three kinds of knowledge, content knowledge, pedagogical knowledge and technology knowledge, to form a whole through interaction. In other words, TPACK also means Total Package. In order for teachers to apply ICT in pedagogy, they need to possess the technological knowledge on the tools to be used. This pedagogical knowledge and content is important since they show what they intend to teach in order to be effective in the teaching and learning process.

The rationale for choosing this model for this study was that the implementation of the Competency Based Curriculum will be largely driven by technology as an enabler of knowledge dissemination. Technology is an important tool in the CBC implementation

across all levels of the curriculum; right from grade one to the tertiary institutions. Nowadays, learning has transcended the confines and limits of the classroom walls to virtual classrooms using applications such as Zoom or Google Classrooms. This model was very applicable and relevant to this study because CBC should produce modern day graduates who can fit in the ever-dynamic society that is largely driven by technology. The teacher should be able to incorporate technology in his or her instructional methods when delivering the curriculum content to the learners.

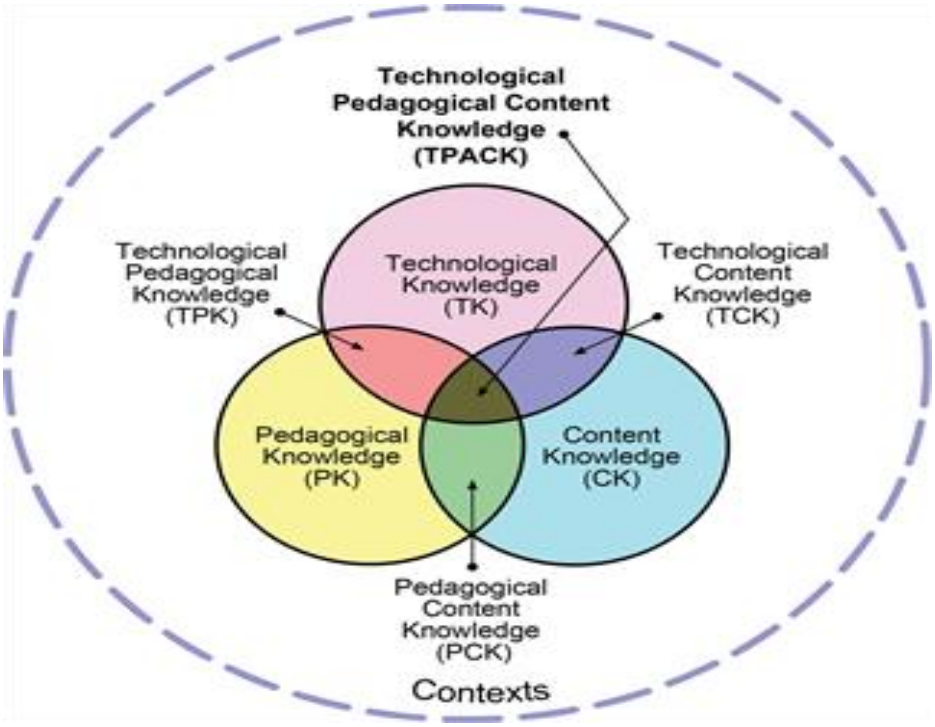

Figure 1.1: The TPCK Model
Source**:** Zhang, W. and Tang, J. (2021)

TPACK refers to knowledge about the complex relations among technology, pedagogy, and content that enable teachers to develop appropriate and context-specific teaching strategies. TPACK ensures that teachers have a bright outlook towards the use of ICT in educational process by giving them opportunities to design lessons with the aid of ICTs. It also ensures that teachers keep abreast with the latest knowledge in their area

of specializations and professional developments through refresher course and trainings, Hussain, (2020).

TPC is a model that explains about the knowledge of technologyincorporation. The components of the TPCK are as described below:

T - Refers to technology such as computers, video, projectors, radio, television and mobile phone which an instructor chooses in pedagogy and teaching learning process.

P - Pedagogy describes the approaches used in instruction.

C - Content is the desired substance to be learned.

K - Isthe cumulative subject matter that an instructor has necessary for teaching.

CK - refers to any subject-matter knowledge that a teacher is responsible for teaching.

PK- refers to teacher knowledge about a variety of instructional practices, strategies, and methods to promote students' learning.

TK - refers to teacher knowledge about traditional and new technologies that can be integrated into curriculum.

TCK - refers to knowledge of the reciprocal relationship between technology and content. Disciplinary knowledge is often defined and constrained by technologies and their representational and functional capabilities.

PCK - is an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction.

TCK - refers to an understanding of technology can constrain and afford specific pedagogical practices.

1.11 Conceptual Framework

Orodho (2004) defines a conceptual framework as a model of representation that a researcher first conceives as an idea and also interplays of the association between variables in the inquiry. The model presents the relationships in pictorial form. The following framework displays interplay between the independent variables and dependent variables.

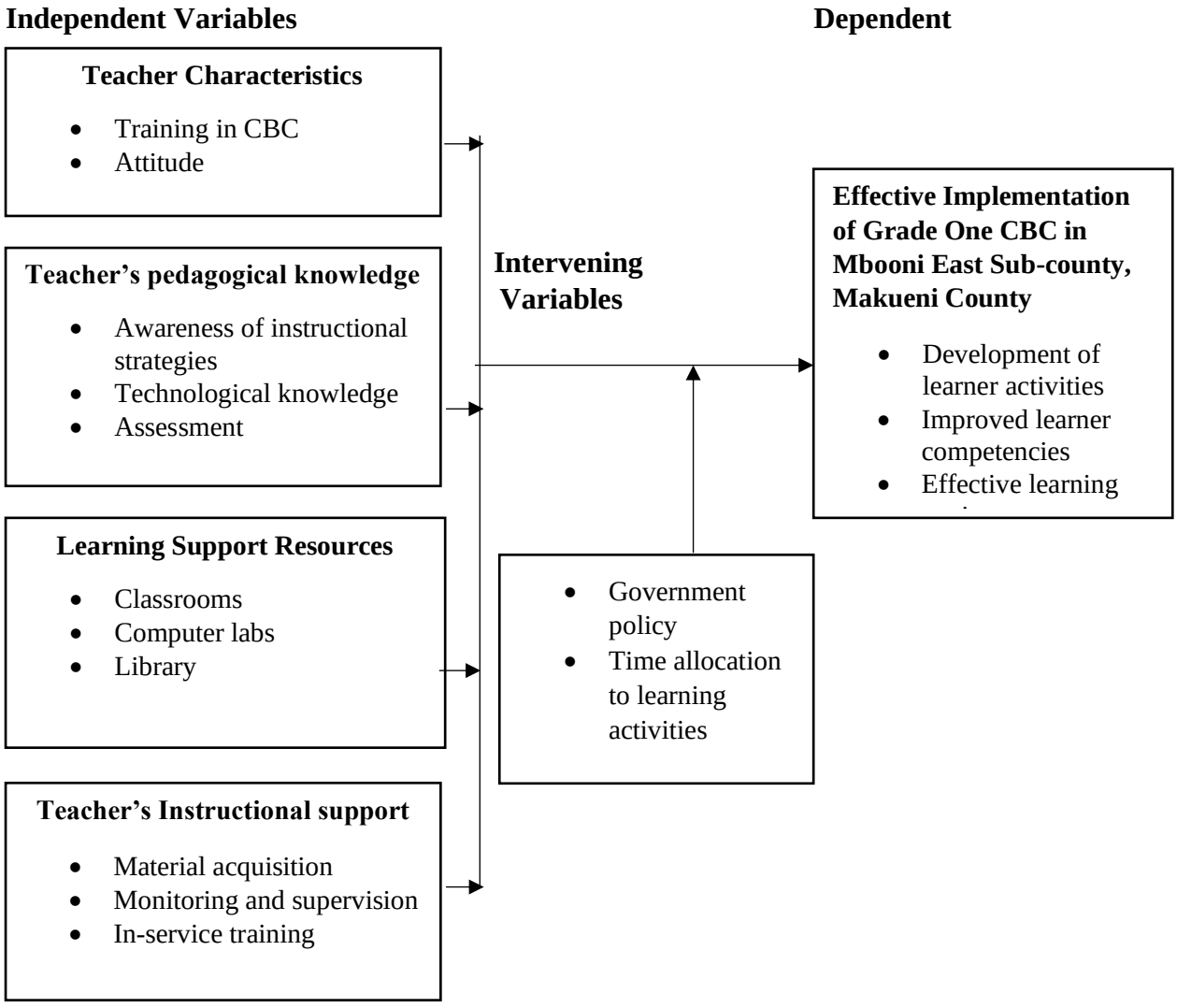

Figure 1.2: Conceptual Framework
Source: Researcher, (2023)

1.11.1 Relationship between the Variables

Figure 1.1 shows that the implementation of CBC is influenced by institutional factors that include teacher characteristics, teacher's pedagogical knowledge, school infrastructure and instructional support. Teacher characteristics involve teacher's training on CBC and teacher's attitudes towards CBC implementation. Teacher's pedagogical knowledge encompasses teacher's awareness of instructional strategies and technological knowledge for CBC. For effective implementation of the CBC in schools, the school should have adequate infrastructure such as classrooms, computer labs and fields that provide amenities for better delivery of the curriculum. Effective implementation of the CBC requires effective assurance measures to be put in place through instructional material support and monitoring and supervision of the teaching and learning process. If the teachers are not well supervised and their work output evaluated, then they can compromise the effective implementation of the CBC in schools.

1.12 Definition of Significant Terms

Competency Based Curriculum (CBC) refer to: Curriculum that assist learnersget desired knowledge, skills, values and attitudes to use in their daily lives.

Implementation refers to: execution or practice of a plan, a method or any design, idea, or policy for doing something.

School related factors refer to: factors such as teacher characteristics, teacher's pedagogical knowledge, effective infrastructure and teacher's instructional support needed in school for effective curriculum implementation.

Teacher characteristics refer to: teacher training and teacher's attitude towards effective implementation of CBC.

Teacher's pedagogical knowledge refers to: teacher's content knowledge and instructional strategies the teachers use in effective implementation of CBC.

Learning support resources refers to the tools, materials and instruments used for presentation used by the teacher to supplement classroom instruction or to stimulate the interest of learners.

Teacher's instructional support refers to: the support provided by the head teachers and curriculum support officers to the teachers for effective implementation of CBC.

Effective implementation	refers to the roll out of the CBC programme while ensuring that the controls and standards are upheld and that the programme achieves its objectives.

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter entailed the following areas: Information on the concept of CBC, teacher traits, teacher's pedagogical knowledge of CBC, available infrastructure, and teacher's material support on the implementation of CBC. This chapter will also give a summary of the literature review.

Okello and Kiguire (1996) posit that curriculum execution is a web of varying undertakings and involves the backtracking of people's perception to first embrace and then take part in those activities. CBC is a hands-on oriented approach to any system of education as it shades light on the accession of survival skills and explains the proficiency that is required for a person to be momentous in the community (Savage, 1993). Ratuyaga (2010) pointed out that CBC needs a shift beginning from evaluating the learning content to looking into each result of learning. Mosha (2012) points out that CBC seeks to improve learners' skills of understanding to learn and how to engage in such a socially eclectic world. According to Wood (2001), the notion for learners to gain skill-based learning to a great extent demands that we have a learner-centered technique. Harris, Guthrie, Hobert, and Lundberg, (1995) concur that CBC is the likely answer in the current intricate economy which underscores that people are skilled to become productive in this current world.

A competency-based curriculum is meant to prepare holistic children and give them opportunities to be able to learn and be efficiently competent at work. Institutions implementing CBC are supposed to determine a cluster of general objectives or learner competencies that describe the learner's behaviors and characters. CBC expects

teachers to define specific abilities that could be exactly measured to function as guidelines that trainees have met the target or not, in the activity content and to display the expected behavior as stated in the wider objectives. Baron and Boschee, (1996) elaborated that the accomplishment of the outcomes that include portraying the expected behaviors shows that the students have gained the anticipated attitudes, skills, and knowledge.

Jallow (2011) posits that the competency-based curriculum is expected to change the learners to have the ability to perform several tasks. According to Wangeja (2010), CBC is solely about acquaintance construction and not transmission. He went ahead to indicate that advanced knowledge affects the teaching and learning process. He wound up that the intrinsic desire to seek knowledge is important. CBC is designed in a way that learners feel excited about their schools. Teaching and learning are centered on the learners, meaning that the pupils participate actively in the learning process. Learners enjoy exchanging ideas in groups, interacting with their peers and doing their research, discovering new things, and feeling happy about studying. Deliberate initiative to integrate competencies often focuses on bringing skills that include and are not limited to the ability to collaborate, communicate, and think rationally and to allow them to look at the problems better critically (Sulivan and Bruce, 2014).

According to Mosha (2012) a competency-based curriculum should contain the particular outcomes of assertions that describe the abilities or proficiencies to be obtained. In addition, it has preferred behaviors or students' work, circumstances for their attainments, and adequate qualities that are shared with students. The goal of CBC is to advance learners to attain some abilities and individual behavior in the instructional process which is of great apprehension. CBC assessment stresses criterion-referenced.

Accordingly, a competency-based curriculum should accentuate competency-based learning that centers on the apprehension of skills, concepts, and attitudes that ultimately require some calls for alteration in the way we teach, learn, and assess (Posner, 1995). The content-based curriculum is known to encourage memorization by repetition type of learning. Wangeleja (2010:10) is of the opinion that "a knowledge-based curriculum (KBC) centers on comprehension and therefore the curriculum is content-oriented." According to The Tanzania Institute of Education (2004:1), a knowledge-based curriculum should highlight the notional content and should be rooted in traditional instruction and learning approaches.

According to Devries, 1999; Pruit and Shuman, (1980), CBC is a set of clear concepts such as knowledge, skills-listening, communication, values, and attitudes that are related to thriving performance. This exposition was constantly re-emphasized by distinct governments through their ministries of education in a revision to the existing skillfulness in curricula and teaching competencies. The government's goal is to produce graduates or specialists who are characterized by abilities and proficiencies in their results and behaviors. Students and educators' abilities and competence should form part of Competency-Based Education (Devries, 1999). The focus should be on abilities and competence regarded as the central notions in Competency-Based Education they complement each other (Dachnick, 1991). Competency-Based Education requires that graduates indicate their capabilities and perform at a sufficient level and also display mastery in their proficient workplace. According to Dachnick, (1991), Competency-Based Education is an action and action-oriented type of education that needs the merging of knowledgeable practitioners and subject matter experts who are knowledgeable and qualified in the educational processes that ensure

that the right abilities and competence are inculcated to students. To produce acquainted and competent graduates demands that they depend on schools and university professionals' reflection on their appropriate curriculum and cultural practices. The curriculum reflection process is expected to help schools and training organizations to ensure that their curriculum is better qualified to produce graduates that own experienced competency and proficiency (Roberts and Palvlak, 2002).

Competency-Based Education is more of professionals' practices and persistent search for different ways of guaranteeing enough places professional performance in their places of work should be about specifying competencies and educational programs, and subject content that will stimulate students to develop the known and earmarked competencies. For specialists to do well in their professional roles they need to have these special competencies such as knowledge of the subject matter, content, and the capacity to do the needed practical or theoretical skills are critical (Stewart et al., 1983; Cook, 1963). Scope proficiency and competency are known to have a role in training critical thinking skills, listening skills, and their outcome. This implies that the accomplishment of known competencies in any education system partly relies on professionals who are competent and adept. For example, tutors who have generated productive listening abilities recreate a crucial role in their teaching and learning process (Arcavi and Isoda, 2007; Findly and Drake, 1989).

Most governments in conjunction with their respective educational designs are implementing either OBE or CBE primarily for boosting the academics and learning standards of all learners (Baron and Boschee, 1996). These two are ideologies and instructional strategies planned to educate all children holistically and give each student the possibility of learning and being proficient in his or her career. Academic

institutions that use OBE or CBE are expected to decide a set of general outcomes or abilities that describes the learners' behaviors and qualities that graduates should possess. Some distinct proficiencies or competencies should be picked from wider results to give the basis for planning and systematizing subject curriculum, instruction, and review of the subject area content.

The OBE and CBE need instructors to identify distinctive proficiencies or competencies that could be measured accurately and serve as examples that learners have or have not attained competencies in the subject content and showing the expected behavior as explained in the broader subject results. Baron and Boschee, (1996) posit that the achievements of the outcomes which entangle showing the preferred behaviors should indicate that students have attained the expected attitudes, skills, and knowledge that will make them efficient and effective in their professional places of work. This assertion intimates that there is no clear line of distinction between Outcome Based Education (OBE) and Competency-Based Education (CBE). These in addition to their originality documented that OBE and CBE are similar concepts. For example, OBE has its roots in two educational reform movements and the mastery of learning movement whereas the Competency-Based movement builds on the hypothesis that all learners can acquire desired results if teachers reserve time and teaching parameters in which learning takes place (Baron and Boschee, 1996). The two forms of education accentuate particular competence and learning outcomes that are usually used interchangeably. Both explain that education instruction is aligned with structured methodology and the learning effects or competencies. These learning outcomes or competencies are emanated from the educational mission statement. These two forms of education are embraced and implemented to support an educational mission of preparing

professionals to fit their future jobs or reaction to socio-political changes such as South Africa's post-apartheid era or reactions to the changing job markets. Political changes and changes in the job market force governments to question the existing education systems and if young people are being prepared sufficiently for their future life roles or the contrary.

According to Pruit and Shuman, (1980) educational programs are meant in improving future practitioners' professional basic ways of reflection for them to perform and act with professional probity. Competencies and curriculum changes demand that revolutionary changes in teacher training are made and reviewed on professionalism, and the operations of educational institutions' reflection on assessment and pedagogy (Halpern, 1999). Academic Institutions' self-reflection assists them to apprehend and clarify the most important competencies in their actions and inactions in ways that guide curriculum layout and implementation and influence norms of evaluating learners to find out if they are grasping the competencies that relate to educational practice.

Competency-Based Education has more to do with the workplace's societal competencies. This relates to the application of knowledge, aptitudes, values, attitudes, and competencies that can be monitored and mastery behaviors. The competency and proficiency behaviors are measurable by using the public's actions and in-actions. Educational institutions are required to provide opportunities for learners to gain practice in the application and contemplation practice. The Ministry of Education's effort to influence equity at the school level (providing free education) without approval or initiatives for further education training level of the education system was not successful. The training programs offered were not done as they should and it's feared

that professionals may graduate without the necessary competencies, skills, and knowledge that are required at the school system.

Teacher meditative thinking is essential in directing teachers to gain a deeper understanding of the main areas of competencies that are more often than not overlooked. These involve reflection 'in action" and reflection "on action" according to Chetham and Chiver, (2005). They declare that cognitive processing of relevant knowledge based on their interactions with both academic and non-academic circumstances they faced is important. This means that Competency Based Education does not occur in a vacuum but is impacted by the contextual and cultural factors of the localities (Pithers and Soden, 2000, P 246). The contextual and cultural factors challenge teachers to reflect on their perceptions, attitudes, and knowledge of Competency-Based Education and how these factors influence the teaching and learning of competency-based skills (Eraut, 1994). This also depends on how personal feelings and subjectivity of Competency-Based Education and limited knowledge, understanding, and the viability of working relationships of the major key stakeholders and their endeavors to achieve competency-based educational goals (Ruch,2007). Competency-Based Education challenges learners, graduates, and practitioners to immerse themselves in an endless reflection and how they employ the competencies in the classrooms and communities (Bogo et al., 2011). This shows that competency-based education does not only major in people's behaviors but more notably in peoples' reflective practices, cognitive processes, and use of competency.

2.1 Teacher Characteristics and Implementation of Grade One CBC

Teachers are educators. Professional educators should develop as lifelong learners, reflective thinkers, and ethical leaders exemplifying the ideals of literacy, scholarship,

and social justice in a diverse and ever-changing world (Albee &Piveral, 2003). National Council for Accreditation of Teacher Education (NCATE, 2001) has defined the essence of a teacher as the values, commitments, and professional ethics that impact behavior towards students, families, colleagues, and communities and affect student learning, motivation, and development as well as the educator's professional growth. The dispositions or the characteristics of the educator thus have a direct impact on all with whom he or she connects. Teacher traits can be defined as a particular teacher's special qualities; this can also be a teacher's perception of CBC. This perception refers to how something is interpreted, regarded, or understood. (Eggan and Sahak, 2011)indicated that teachers' perceptions and perspectives are important in efficient teaching as they influence learners' performance. Teacher characteristics may also include the teacher's preparation for the implementation of the curriculum. This may include training which has to be a priority to actualize reforms in education (Gatlin, 2009). It is therefore concluded that the teacher should be able to prepare all professional documents, for instance, schemes of work and lesson plans for effective teaching and learning in class.

2.1.1 Teacher's Attitude and Implementation of Grade One CBC

The concept and knowledge of CBC should be circulated to all teachers and relevant professionals in a more detailed manner. This could be done by cultivating critical reflections that would assist professionals to question their CBC speculations on the existing social, political and cultural, ethical, and moral beliefs. Roberts and Palvlak (2002) indicated that CBC has not been embraced by many educators because of reasons that include and are not restricted to a lack of understanding of the CBC

concept, lack of understanding of competence-based pedagogy practices, fear of change, cultural conditions and the use of different methodologies.

Educators are critical and important stakeholders that decide how the school policies and curriculum is implemented (Porter, 2015). However, this would rely on their perspective and how they look at the curriculum. In a study carried out in Tanzania on the change from a knowledge-based to a competence-based curriculum among secondary schools, it was documented that some teachers took the newly published textbooks as irrelevant while others took them as unserviceable and complex (Luhambati, 2013). Teachers' stances and mindsets are vital for the effective instructional process as they determine trainees' attainments (Eggen & Sahak, 2001). According to Barr in Banning (1954), the philosophies that teachers hold are crucial in educational system modification and its execution. This underscores those teachers' opinions, interests, ideas, perceptions, and perspectives on any curriculum modification must be established to ensure the efficacious implementation of curriculum and desired transformation in any educational system. This is deemed so as teachers determine activities based on their attitudes, experience, and opinions based on core functions in the school.

The competency-based curriculum does not exist in a vacuum but is influenced by contextual and artistic factors in some localities (Pithers and Soden, 2000 p.246). The contextual and community's cultural practices, for example, challenge teachers to make reflections on their perspectives, perceptions, and understanding of CBC, and how these constructs influence the teaching of competence skills (Eraut, 1994). People's emotions and objective reactions towards CBC and the limitation of knowledge and familiarity also influence the viability of the operational relationships between the major CBC

stakeholders, especially in their effort to achieve competency-based objectives (Ruch, 2007). This shows that CBC does not only perform on learners' behaviors but at the same time their meditative practices, cognitive processes, logic, and use of the competencies; knowledge, values, and skills. It can be concluded that for the CBC curriculum to be victorious educators ought to own the curriculum (REB, 2015).

McMillan (2000), asserts that teachers require that they have sufficient knowledge and understanding in teaching to be able to conduct students' assessments. Research has shown that teachers who have enough knowledge of pedagogy and assessment are in a position to combine it effectively into their teaching and learning. They were likewise found in utilizing effective strategies, tactics, and strategies to improve students' abilities and competencies. Implementation of the CBC needs technology and particularly ICT. A study carried out in Canada by Hardy (2003), explained that pre-service and in-service teachers explained that they were not well prepared with the ICT skills that are important for handling and use of ICT tools that are required for the effective implementation of technology in their teaching and learning. It is therefore established that, although teachers had been formally acquainted with skills on the use computer technologies in teaching and learning, they could not do so practically. This necessitated this study in Mbooni Sub-County, Makueni County to determine whether it was the same with other areas where such studies have been conducted.

2.1.2 Teacher Training and Implementation of Grade One CBC

A teacher can also be directed to as a curriculum implementer. A teacher's role is to translate the curriculum technique into an operating curriculum by combining efforts with those of the learners and other key stakeholders as explained by Mkpa (1987). The teacher's role is to implement the curriculum and the content. This is not done as it is

but by breaking the content into manageable units. The teacher decodes the curriculum intentions for the learners into a reality. It should be borne in mind that the implementation of the curriculum depends on understanding the curriculum design well. Suffice it to say that teachers may need to create lesson plans and schemes of work within a given framework. The teacher always should implement a curriculum that meets the needs of students (Carl, 2009).

Competencies and curriculum changes require that radical changes be made in teacher training, and teacher reflections on professionalism. It also requires the process of educational institutions' reflections on pedagogy and assessment (Halpern, 1999). CBC is concerned with teacher reflections on national objectives, and competencies, and constantly looking for different means of ensuring adequate professional performance. For graduates and experts to be to succeed in their work, they need to have these capabilities. These understand the subject matter, scope, and ability to do the needed empirical or theoretical skills (Stewart et al., 1983; Cook, 1963). Content abilities in CBC and competency are important in teaching and specifically thinking skills and listening skills. The success of identified competencies in any educational institution would rely on the competency and proficiency of professionals. Suffice it to say, that instructors who possess efficacious listening capabilities play a major function in classroom teaching (Arcavi and Isoda 2007; Findly and Drake, 1989).

School significance depends on the personality of the teacher in terms of the skills and knowledge he or she possesses. This means that a teacher who comprehends the needs of the learner is capable of making learners have good outcomes. The usefulness of a teacher is central to reforming the education system. According to UNESCO (2014), preschool teachers' capability in implementing CBC in learning and teaching, will lead

to the efficacy of curriculum implementation. Teachers need meaningful comprehension, skills, and the potentiality to relate with all the learners setting a feasible standard, with the knowledge on selecting instructional materials that can acclimate learners at varied levels (Zeiger 2018). This encourages learning that is real even in times ahead, thus calling for all teachers to be well-trained to implement CBC. Trainers dictate the calibre of education furnished by any organization in any country. If a country has to get industrialized, it should contain effective education system (Arab Knowledge Report, 2009). Chishimba (2001) states that the competence-based teacher education program development should assure that the competencies to be developed and denoted are set out in advance. In a CBC curriculum, the inventor identifies what the learners are obliged to attain well in advance.

A teacher's ability and usefulness in carrying out curriculum implementation largely depend on variables such as knowledge, experience, qualifications, availability of resources, and motivational issues among others factors. Teachers should have an adequate understanding of ways of implementing curriculum and suitably using resource materials. This is because, as a source of knowledge, teaching and learning resources should help attain the various goals and objectives of teaching. Teachers should choose those fabrics that are related to the curriculum and which represent the key factors related to a particular moment, epoch, or a particular central thorny question or problem.

2.2 Application of Teaching Pedagogy and Implementation of Grade One CBC

Curriculum-based Competences deal with learning, skills, and attitudes. Teachers' proficiency is comprised of three elements. These are pedagogical knowledge, content knowledge, and didactics content knowledge (Etkina, 2005). Scope knowledge is the

kind of comprehension that the discipline itself includes bureaucratically methods whereas didactics knowledge deals with generic that explains the why and how of teaching. Finally, didactics knowledge deals with a situation-specific overlapping of scope knowledge and didactics knowledge. Pedagogical scope knowledge is a sort of knowledge that is intricate and is obtained from many years of classroom experience. This is also called "proficiency in context". Shulman (1986) avers that pedagogical content knowledge is inclusive and is not limited to knowledge of learner facilities and preliminary inception in the subject knowledge, instructional strategies, subject representations, and subject-specific testing methods. Knowledge in subject matter can also be described as knowledge of content related to a remarkable area of study that includes syntactic and substantive constituents. Tamir (1988) posits that the fundamental element encompasses comprehension of rules, facts, principles, theories and in a specific field of science. Also, the syntactic element includes understanding of the procedure through which knowledge is brought about in the field.

Proper implementation of the curricula by the teachers demands that they have a motif element of educator comprehension and professionalism. Blomek and Delaney (2012) aver that teachers' knowledge and skills are important in the teaching-learning procedure. Komba and Mwandanji (2015) revealed that quite many educators are not only casual in their processes but also not at home with the subject matter while others had not adequately comprehended the concepts of CBC. Suffice it to say that others never knew the goal of the competency-based curriculum. Paulo (2004) asserts that comprehending the content of a subject assists a teacher in sufficient preparation for distinctive methodologies of teaching. Understanding CBC means cognition of the extent of one's intelligence and the application of different ideas, skills, and knowledge

to solve problems in real time. In addition, he avers that teachers should be well-versed in the knowledge capacity of the subject matter should then the curriculum they profess. This critical knowledge, aptitudes, and capabilities are important for ease of ties with learners that will enable them to set controllable standards. This kind of knowledge shall enable them to decide on instructional materials that will be useful to learners at different levels (Zeiger, 2018). This shall enhance teaching and learning that is practical-oriented now and in the future.

Sefficacious discussions in the classroom, the election of representations and explanations, the expounding of student feedback, and the timely and relevant analysis of students errors and challenges. Each teacher requires pedagogical knowledge to enable them apply in CBC implementation.(Ball, Lubienski & Mewborn , 2001),

2.2.1 Information and Communications Technologies and Execution of CBC

According to Dede, 2008; McLoughlin& Lee, (2010), Information and Communications Technologies have built rapid societal changes by basically recasting the way people intercommunicate, access information, enjoyment, do business, administration and research. In addition to that, ICTs are perceived to be an integral component in educational reform efforts critical for the 21ST century, of the way it has changed major facets of the essence of knowledge and the way it is accessed. The new generation (Web 2.0) development and its distribution are anticipated to exercise a notable effect on learning.

A report produced in Japan (January, 2014), on international research, has indicated that the application of ICT technologies can give on to upgraded learners' knowledge and enhanced methods of teaching. Information Communication and Technology

remain very important as their need in the international education sector increases. The demand for the usefulness of ICT has advanced in learning institutions in the 21st Century. According to Buabeng-Andoh (2012), the utilization of ICT in education counts value to the teaching and learning process and improves the efficancy of comprehension through the incorporation of elements that were at hand before. At the same time, ICT acts as a catalyst in learning by facilitating learners and teachers by bracing engagements with joint learning at the classroom level. For more vital curriculum changes to be made, embracing ICT is very vital as it facilitates the teaching and learning technique and makes it more fruitful (Tomei, 2005). Technical and teaching skills are required by educators to assist them in efficiently and effectively adopting and integrating ICT into the school syllabus (Awidi&AldhaFeeri 2017).

According to Chan (2014), teachers' enthusiasm and willingness are two critical issues for the triumphant application and enactment of ICT in the teaching and learning process and curriculum implementation. Hennesy el al. (2010), assert that the leading hindrance to the execution of ICT was stunted levels of teacher pedagogy that connect to skill and comprehension in ICT. This study also indicated that fright, lack of capability and confidence; among teachers prevent ICT use in learning institutions. A declaration by KICD on CBC shows that 61 percent of teachers lack training in ICT (KICD,2018). Therefore, teachers should be readied with ICT technological skills because digital literacy is one of the core competencies of a Competency-Based Curriculum.

2.2.2 Teachers' Lesson Planning and Implementation of Grade One CBC

A lesson plan is defined as a written report of the process that brings interplay between the strategy, the time, and the learning environment, the learners' evaluation methods

and the level of learners' progress are presented (Farrel, 2012). According to Williams (2005) a lesson plan recaps the procedures that provide a clear route for a teacher of the choice of relevant resources to assist in the delivery of tasks to be taught and how to teach them. Teachers' proper decision-making and planning are ideal to avoid students' reluctance during teaching. The lesson outline is a means through which a teacher can employ it to manage classes. It is tailored to fit the learner's needs and abilities (Naimie et.al. 2012).

It is anticipated that KICD to have some teacher-led effort that shall help teachers integrate the critical aspects of a competency-based curriculum (CBC) that includes the following: Pertinent and Contemporary Issues (PCIs), values, Advanced Learning activities, and the Key Inquiry Questions. This knowledge is very necessary to grade one and grade two teachers who took part in the training. Teachers are required not to teach using lesson plans without the necessary header for effective and successful teaching (Coppole et.al. 2004). According to Rugambuka (2012) a well-trained teacher in a competency-based curriculum is expected to know how to plan, and organize the scope and succession of subject matter to be offered in advance that has a focus on, students' capabilities and the instruction should be delivered to avoid ambiguity and irrelevance. Teachers are required to plan, prepare and collect teaching and learning materials, and give their main ideas and skills in a systematic manner that takes care of appropriate pedagogy to attain the desired learning outcomes outcome well after teaching and learning. In addition, instructors are expected to choose, strategize, and actualize appropriate assessment approaches to be used to assess pedagogy and the teaching-learning process. During the teaching-learning process, connections between the learning components of teaching and learning must be shown. Therefore, teachers

need to prepare their lesson plans early in advance and acquaint themselves with the content of the lesson for effective implementation of CBC in grade one.

2.3 Availability of Learning Support Resources and Implementation of Grade One CBC

Schools exist to provide education which involves a series of programs and activities. The success of these programs and stirs depends on the availability of proper infrastructure in the schools. Imparting education requires school infrastructure that includes buildings, grounds, furniture, and apparatus (Imazeki, 2004). An excellent school infrastructure program demands that the school buildings should be well planned, spaciously, functionally, and with aesthetic architectural features. In addition, the rooms should be spacious and well-ventilated with necessary facilities like fans. (Wayne &Youngs, 2003). Construction of school buildings demands that an architecture plan it in such a way that the building has a library, diverse types of laboratories, workshops, art, and craft rooms, staffroom, principal's office, school office, multimedia room, conference room, community ground, gymnasium, etc (McCarthy & Guiney, 2004).

It should be cited that a school classroom is the backbone of any school's physical infrastructure. A perfect school infrastructure schedule should have adequate classrooms and a pleasant look. The classroom walls are supposed to be painted with some light colors and classrooms well decorated. Paintings should be well fixed on the walls and new charts bought. The school classrooms should have a variety of learning corners that represent required and suitable activity areas. Fixing of the blackboard should be completed at the appropriate height in the front wall. The back walls should have built-in cabinets for keeping books, tools, crafts materials, experiment apparatus,

maps, and other teaching essential materials (Hawa, 2011). The classroom should have mobile seats and work tables and varied resources for learning readily available in storage cabinets. The teacher can change the seating formatting depending on the variety of activities. To ensure that students seated at the different corners can see the teacher and the blackboard, the classroom should be well-lit (Dhanalakshmi, 2008).

The library is a crucial component of a good school and it is part of a school physical infrastructure program as it recreates an important role in the school teaching and learning process. It should be located in such a place where noise does not trouble the students. It should be noted that a library, is a place where a useful means of storing virulent knowledge and one that teachers cannot do without (Dash, 2005). A library is storage of books that should have textbooks, workbooks, reference books, fiction, and non-fiction books, reference books pamphlets, clippings, pictures, maps, charts, journals, etc. placed on proper shelves (Janmohamed, 2012).

The school infrastructure planning should also predict a well-planned administrative block where leadership and service functions are done. The school administrative block should be centrally located to serve as a good coordination vocal point. An administrative block should be obtainable to visitors, teachers, and students. The block should have a teachers' common room where teachers meet and interact with each other, do corrections of home/school work and refer to books. (Dhanalakshmi, 2008). The school should also have well-maintained playgrounds. Sports and games play a vital part in education. They not only enable learners to develop physically but also cognitively, socially, and virtually. Learners should be developed holistically and therefore children should have enough indoor and outdoor facilities (McCarthy & Guiney, 2004).

All school structures should be well maintained from time to time. That is their conditions must be looked into all the time. There are effects if facilities are not maintained. Natural light, indoor air effective, temperature, cleanliness, acoustics, and classroom size can positively or negatively affect learning and productivity. It should be noted that poor ventilation, dust, and cracked ceilings and walls can lead to respiratory infections, headaches, sleepiness, and absenteeism (Wayne &Youngs, 2003). Research has it that students minding school in newer facilities outperform their coequals in unmaintained schools even if you control their socioeconomic differences. Several studies also have established that the size of schools also matters. Smaller schools of say less than 500 students and small learning communities within larger schools have been associated with better student performance, less absenteeism, and increased student engagement. Research studies have also shown that teacher retention is higher when school facilities are in better shape (McCarthy & Guiney, 2004). It is therefore evident that the government has to facilitate construction of classrooms and other facilities like laboratories. Teachers collaboration with parents may be involve in preparation of locally available teaching/learning resources.

2.3.1 Role of Digital Infrastructure in the Implementation of Grade One CBC

Before the outbreak of the pandemic, digital learning was an option. Many schools realized its importance and incorporated technology as a part of their ecosystem via smart classrooms and other IT infrastructural developments. But for a world that has been witnessing the impact of COVID-19, digital learning is the new normal and the only way to continue imparting knowledge to millions of educational aspirants. Schools and colleges which had shut campuses to curtail the spread of the virus have quickly adopted the digital medium of instruction delivery modules. Hence, educational

institutions have to invest in building digital infrastructure to make education accessible for all students.

There is a necessity to have ICT integrated with teaching and learning in CBC implementation in preschools. Kisirkoi (2015), defines ICT as a tool that comes in a way of hardware such as computers, or digital cameras; or software in form of power point, discussion forums, or both. Many instructors define ICT as different tools and materials presented on the computer. This is a depiction in an educational context. Whereas ICT integration is defined as the utilization of ICT technologies to enhance the degree of curriculum objectives and to make students engage in lessons in momentous ways. Integration of ICT in instruction is not a new notion; it is as old as the radio and television. Nevertheless, educators are finding ICT tools integration increasingly pleasing with the rapid evolution of imminent innovations such as web technology (Obonyo, 2013).

The schools need to have computer labs that are properly wired and supplied with computers or with laptops so that they can take some of their lessons there. In a thought out in advance ICT-integrated lesson, ICT inclusive of other uppermost educational elements such as pedagogy and content are constructed into one that can prop up relations such as learner-learner, learner-teacher, and learner interface and learner-content in the learning surroundings. In these conjunct learning processes, learners turn out to be more participatory and occupied (Wong et al., 2006). According to Kisirkoi (2015), the application of ICT in the teaching and learning process has the following advantages: it expands ingress to education since learners and teachers do not exclusively rely on print media. The internet is a fount of plentiful instructional materials in majority of activity areas taught and the various media are handy whenever,

wherever and by whoever wants to use them. ICT tools enhance learning through all the senses; learners easily get occupied in the learning process when genuine and challenging content is made possible by the use of visual ICT tools such televisions, videos and multimedia computer software that amalgamates sound effects, text, songs, comic skits and dramatizations among other performance routines that can motivate and encourage the learners to learn as well as act as a stimulus to augment learners' self-confidence. Therefore, the government together with other stakeholders needs to support the establishment of computer labs in schools and ensure teachers are trained to ensure they make use of these labs during preparation of lesson and teaching.

2.4 Availability of Teachers' Instructional Support and Implementation of Grade One CBC

According to Atikunde (2007) oversight is function of dealing with undertaking or people or looking over a specific mission being executed adequately with the assistance of other people. An analysis by Muoka (2007) underscores that management is apprehended in terms of leadership and attainment the goals set which encompasses inducement of set targets, development and professional growth of teaching, preference, and emendation of educational objectives by the use of instructional material, and assessment of the institution. Kimeu (2010) guides Glickman and Gordon (1990) who postulates that conventional supervision also means clinical supervision, which necessitates person to person, interlink age. The manager makes the discernment on the extant teaching and assists in determining methods for upgrading education pedagogy. This calls for the facilitation of the supervisee's self-evaluation, observation, remarks, assessment and the accession of the details and proficiency with the backing of modeling, coaching and mutual hassle-solving, through construction on the honor of

the brawn and potential of the supervisee (Stephen, 2014). Owen (1992) avers that all school administrators must guarantee advancement in teaching by advancing efficacious instructional oversight on the part of the administrator. The head teacher must assure that the academic achievements are attained.

Curriculum implementation cannot be achieved unless it has been made possible through the supervisory function of the school head. The head of the school does this by assigning time to learning activities taught in school, providing teaching and learning materials, and creating an atmosphere conducive to effective teaching and learning. The head monitors and guides curriculum implementation by ensuring that schemes of work, lesson plans, and records of work covered are prepared regularly. The headteacher also maintains a school tone and culture that create a climate of social obligation. Effective curriculum implementation does not take place as expected in a school where the head is incapable of perpetrating supervisory functions.

The head teacher has the mandate to select and put together instructional materials which assist the teachers to execute their duties better and enhance learning through effective instructional leadership. Mbiti (1999) postulates that the success of every school curriculum design is profoundly determined by governance. The head teachers should put into practice insights from scholarly reforms to become instructional supervisors to enhance efficacy in curriculum execution, by taking up their responsibilities fully. (Mgbadille, 1996). Regarding Javaid (2009); the head teachers who are the leaders of pre-schools can play a crucial role in leading by example. Even though the preponderance of the head teachers in Kenya are inadequately trained and lack the prerequisite knowledge in early childhood practices yet they manage the pre-primary schools (Vihenda, 2016).

According to Ajuoga (2010), education reforms often fail due to inefficient oversight. This has led to the creation of the Directorate of Effective Assurance and Standards (DQAS) which should operate when the skills, understanding and attitude of those who assume the role of leadership of education in schools are improved. As noted by Waweru (2005), the DQAS is delegated with the duty to enhance the standards of education in Kenya. It functions as the policeman for teachers regarding curriculum execution.

2.5 Summary of Literature Review

A literature review revealed that a competence-based curriculum is impacted by school-related aspects. The literature focused on themes such as teacher traits and effective CBC implementation. It has also concentrated on teachers' pedagogical knowledge and infrastructure. Lastly, it has focused on instructional support. Research that has been done on school-related factors impacting the effective implementation of CBC in Kenya is insufficient because the CBC curriculum is still in its early stages in Kenya. The competency-based curriculum was rolled out in Kenya only five years ago therefore, not much practical study has been conducted on its implementation. Much of the literature review on the CBC curriculum has been performed outside the country, and those conducted in Kenya have focused on the implementation of CBC in primary schools but not in grade one, hence the need for this study. Moreover, this study intends to go beyond the mere implementation of the CBC curriculum but consider the effective aspect of the implementation process of the curriculum. Therefore, this study is aimed at filling this gap by investigating school-related factors influencing the effective implementation of the competency-based curriculum in pre-schools in Mbooni East Sub-County, Makueni county, Kenya.

CHAPTER THREE
RESEARCH METHODOLOGY

3.0 Introduction

This chapter covered the research design, the location of the study, the targeted population, sampling technique and sample size. The chapter also explained the instruments to be used in collecting data, the type of data to be collected and how it was analyzed. In a nutshell, the research methodology outlined and gave an overall plan for collecting data to answer the research questions and ethical considerations.

3.1 Research Design

The study adopted descriptive survey design. Kombo and Orodho, (2002) explains that a descriptive survey research design is used to collect information about people's views and attitudes towards an issue through different methods and instruments of data collection. According to Awuor, (2018), a descriptive study design is one in which information is collected without changing the environment and it is used to describe the characteristics of a population and the phenomenon under study. This design will enable the researcher to determine the extent to which the variables relate with each other in the effective implementation of the competency-based education in Kenya.

3.2 Location of the Study

The study was carried out in Mbooni East Sub-County, Makueni County. It is divided into five zones namely: Katangini, Kiteta, Kisau, Waia and Kalawa. It covers an area of approximately 949.2km^2 with an estimated population of 209, 012 persons, according to the national census of 2019. The Mbooni Eastsub-county available resources include sand and cultivatable land. The main economic activities of the area include small-scale farming and sand harvesting. The sub-county has 119 primary

schools, of which 111 are public schools while 8 are private schools, MOEST, (2021). Mbooni East Sub-County, Makueni County was picked as the location of study since it is vast area which the researcher is conversant with and thus, being convenient for the researcher in terms of time, finances and accessibility to the respondents to conduct a research study from that area.

3.3 Target Population

This study targeted the grade one teachers in Mbooni East Sub-County; primary schools head teachers and curriculum support officers (CSO). All grade one teachers report to the head teacher of the hosting primary school. Therefore, the head teacher of the hosting primary school doubles as the head and manager. According to the Ministry of Education Mbooni East Sub-County, have a total of 119 public and private primary schools in the sub-county and 5 curriculum support officers (CSO). The study targeted grade one teachers handling the learners in teaching and learning process. There are a total of 130 grade one teachers in the sub-county. Therefore, the total target population are all head teachers; all grade one teacher and all CSOs in Mbooni East Sub-County.

3.4 Sample Size and Sampling Technique

The study adopted Central Limit Theorem as a sampling technique, which states that for any sample size, $N \geq 30$ (N is the sample size) sampling distribution of means is approximately a normal distribution irrespective of the parent population. That is, the sample size should be between 10-30% of the target population. It thus allows the researcher to select; $N \geq 30$ from the target population (Kothari, 2005).The study took a sample size of 30% of the primary school head teachers and 28% of grade one teachers using the simple random sampling technique. Some primary schools had two grade one teachers because they had two streams. Mugenda & Mugenda (2013) aver that a sample

size of at least 10% - 30% is adequate and representative enough to make conclusions about a population. However, the study sampled all the 5 curriculum support officers (CSOs) using census sampling technique because the number is small enough making it possible to include all of them in the study. Table 3.1 that follows gives a summary of the sample size for the study.

Table 3.1: Sample Frame for the Study

Respondents' Category	**Target Population**	**Sampling Percentage**	**Sample Size**	**Sampling Technique**
Head teachers	119	30%	36	Random sampling
Grade one teachers	130	28%	36	Random sampling
Curriculum Support Officers (CSOs)	5	100%	5	Census
Total	**254**	**30%**	**77**	

The researcher applied cluster sampling to select schools where data was collected from the respondents based on the five zones of Mbooni East Sub-County. Random sampling was then used to collect data from the teachers whose schools were selected.

3.5 Study Research Instruments

The research instruments for the study were developed as per the study objectives. Questionnaires, interview guides and observation checklist were also used to collect data.

3.5.1 Questionnaire for the Grade One Teachers

The questionnaire was one of the methods used collect data form grade one teachers. The researcher used the questionnaire to collect both qualitative and quantitative data for the study from the grade one teachers. The questionnaire contained both closed-ended and open-ended questions for respondents to fill with question items on each of

the research objectives. The reason for using questionnaires is that they are very convenient for both the researcher and the respondent and are also less time-consuming when administering them to the respondents.

3.5.2 Interview Guide

An interview was conducted to collect information from the head teachers and the Curriculum Support Officers (CSOs) of Mbooni East Sub-County by the researcher in person. The two categories of groups provided very important information about the CBC and its implementation in Mbooni East Sub-County. The interview guide had question items which fell within the purview and jurisdiction of the head teachers and the CSOs as the key government-designated education monitors and supervisors. They have a direct bearing on the effective of the implementation of the CBC in schools under their jurisdictions.

3.5.3 Observation Schedule

Observation is a method of data collection that involves spending a prolonged amount of time in the setting, recording the behavioral patterns of people, objects and events in a systematic manner (Pitney & Parker, 2009). The researcher filled an observation checklist on grade one teachers' professional documents. The classrooms and the computer labs were observed to assess whether they had been developed in readiness for the implementation of effective CBC.

3.6 Piloting of Research Instruments

Piloting was done in five schools in Mwala sub-county. This is a sub-countywhich is neighbouring Mbooni East sub-county. Thee purpose of the pilot was to identify the likely deficiencies and difficulties that respondents were anticipated that they could encounter when responding to the instrument tool. The pilot was also carried out to find

out the validity and reliability of the research instruments. I was also helpful in it also helped in deciding if the research instruments were properly allied to study objectives and study questions.

3.6.1 The Validity of the Instruments

This study used objective and expert judgment of the items of the questionnaire in order to ensure content and construct validity are upheld. The research supervisors assessed the suitability of the research items of the instruments.

3.6.2 The Reliability of Instruments

The reliability of the instruments was determined by testing and re-testing and piloting which was done in 5 schools and 1 CSO in Mwala sub-county. This pilot group was not included in the actual study. Reliability was determined by use of testing and re-testing method. Testing and re-testing using Cronbach Reliability Coefficient yielded 1.00 or close to 1.00 = no error. The internal consistency reliability computed using Cronbach alpha method was 0.80. This indicated the value of internal consistency and reliability of the questionnaire. According to Nachmias and Nachmias, (2009) a measure of at least 0.70 on the Cronbach Alpha Coefficient is considered as an appropriate measure of reliability in a social science study. Therefore, correlation coefficient of r = 0.7, was obtained which indicated high internal reliability.

3.7 Data Collection Procedures

The procedure began by obtaining an introductory letter from Machakos University which gave a green light for the study to begin. This letter enabled the researcher to seek for a permit from National Council for Science, Technology and Innovation (NACOSTI). Upon acquisition of NACOSTI letter, a formal letter was issued from the office of Sub-County Director to the head teachers of the targeted primary schools and

formally introduced the researcher to the administration, requesting them of their support for the study. The researcher was able to collect data and interview the headteacher and the CSOs. The study also involved observing grade one teachers' professional documents. Questionnaires were administered and collected from the grade one teacher.

3.8 Data Analysis

Data were analyzed using both qualitative and quantitative techniques. Thematic analysis was used to analyze qualitative data along the specific objectives and presentation was in narrative forms. Descriptive analysis was used to analyze quantitative data with the use of Statistical Packages for Social Sciences (SPSS Version 24). The findings were presented in tables, frequencies and percentages as per the research objectives. Interview data and observation checklist data were presented thematically.

3.9 Logistical and Ethical Considerations

During the research some ethical considerations were followed. The respondents were assured of their privacy and confidentiality of the information they gave. During the interview, participants were not mentioned by names and only were assigned a specific code. The participants were explained to about the study and they accepted to participate voluntarily. They were also informed that they could withdraw any time they wanted.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATIONAND INTERPRETATION

4.1 Introduction

This chapter presents data analysis, interpretation, presentation and discussion of findings. The purpose of the study was to investigate school related factors influencing the effective implementation of CBC in Mbooni East Sub-County, Makueni County, Kenya. The study was organized based on the study research objectives including; to find out influence of how teacher characteristics, application of teacher pedagogy, learning support resources, and influence of teacher's instructional support on implementation of CBC in Mbooni East Sub-County, Makueni County.The responses were analyzed into frequencies and percentages and presented in tables.

4.2 Response Rate

The respondents involved were the head teachers, grade one teachers, and CSOs. They returned the questionnaires as tabulated in Table 4.1.

Table 4.1: Instrument Return Rate

Respondents' Category	Sampled size	No. collected	Return rate (%)
Head teachers	36	30	83.3
Grade one teachers	36	36	100.0
Curriculum Support Officers (CSOs)	5	5	100.0
Total	**77**	**71**	**Ave (94.4%)**

Table 4.1 indicates that the average questionnaire return rate was 94.4% which was considered adequate for analysis. Mugenda and Mugenda (2013) indicated that a response rate of above 70% is adequate for analysis. Rowley (2014) noted that a high response rate results in highly credible findings. The higher response rate was achieved

due to the researchers' effort to closely monitor the data collection process and constant communication with the respondents.

4.3 Demographic Information of Respondents

Background information of teachers focused on gender, highest academic qualification. This was to find out whether there is gender balance/parity in the teaching fraternity, and whether the teachers were qualified to teach in primary schools. Responses on teachers' background information are presented in Table 4.2.

Table 4.2: Demographic Information of Teachers by gender

Gender	**Grade one teachers**		**Head teachers**		**CSOs**	
	F	%	F	%	F	%
Male	1	2.8	22	73.3	5	100.0
Female	35	97.2	8	26.7	0	0.0
Total	**36**	**100.0**	**30**	**100.0**	**5**	**100.0**
Academic achievement						
College	27	75.0	17	56.7	0	0.0
University	9	25.0	13	43.3	5	100.0
Total	**36**	**100.0**	**30**	**100.0**	**5**	**100.0**

Table 4.2 shows that majority of the teachers 97.2% were female and 75 % had attained college education. This implies that teaching in lower primary school grades is more preferred by the females than males. The data also show that all the teachers were qualified to teach in primary schools since they all had a diploma in teaching as recommended by the teachers' service commission.

4.4 Teacher Characteristics and implementation of CBC

The first objective sought to find out how teacher characteristics affect effective implementation of CBC in Mbooni East Sub-County, Makueni County. Teachers were asked to tick on the extent to which they agree with statements related to teacher characteristics. Findings are presented in Table 4. 3below.

Table 2.3: Influence of Teacher Characteristics and Implementation of CBC
Key: S.A-Strong Agree, A-Agree N-Neutral, D- Disagree, SD-Strongly Disagree

Statements	SA		A		N		D		SD		M
	F	%	F	%	F	%	F	%	F	%	
In-service training in readiness for the implementation of effective CBC	3	8.3	31	86.1	1	2.8	1	2.8	0	0	2.00
Bench-marking on the implementation of CBC	1	2.8	3	8.3	0	0	17	47.2	15	41.7	4.17
Teachers fully embracing the CBC	11	30.6	14	38.9	10	27.8	1	2.8	0	0	2.46
Female teachers are better suited to handle grade one learners more than the male teachers	4	11.1	22	61.1	8	22.2	2	5.6	0	0	2.22
Attending professional development programs to acquire more training on CBC implementation	16	44.4	10	27.8	4	11.1	4	11.1	2	5.6	2.26

N=3

Table4.3 shows that a majority (94.4%) have received in-service training in readiness for the implementation of effective CBC(2.8%) of teachers were neutral on training in readiness for the implementation of CBC and (2.8%) of grade one teachers disagreed that they had received in-service training in readiness for implementation of CBC. However, (88.9%) of the teachers disagreed that they visit other schools for benchmarking on the effective implementation of CBC. The study also reveals that a fair majority (69.5%) of grade one teachers have fully embraced the CBC, whereas 27.8% were neutral and (2.8%) disagreed that they have fully embraced CBC. The table also shows that a majority (72.2%) were female teachers who are better suited to handle grade one learners more than the male teachers, (22.2%) of the teachers were neutral

and (5.6%) disagreed that female teachers were best suited to handle grade one learners. The study established that, grade one teachers attend professional development programmes to acquire more training on CBC implementation. This view was supported by a majority (72.2%) of teachers who agreed that they attended professional development programs to acquire more training on CBC implementation. To achieve this, teachers attend recommended training to improve skills in Competency Based Curriculum. Findings also confirm that female teachers are better Competency Based Curriculum than male teachers.

These findings agree with McMillan's (2000), study findings that indicated that educators who had adequate knowledge on assessments were capable of incorporate it well into their teaching and learning. They are positioned to use efficient approaches, techniques and strategies to improve their students' competencies. Teacher characteristics may also include teacher's preparation towards rolling out of the curriculum. This may include training which must be a prioritized in order to actualize reforms in education (Gatlin, 2009). The teacher should be able to prepare all professional documents, for instance, schemes of work and lesson plan for effective teaching and learning in class.

The researcher conducted interviews among primary school head teachers to find out how teacher characteristics affect the implementation of CBC. The head teachers were asked whether the grade one teachers attended in-service training in readiness for the implementation of CBC. Two of the head teachers interviewed had this to say,

"*Grade one has attended several in-service trainings in readiness for implementation of CBC. These trainings are organized at cluster level and zonal levels; she has received adequate training on CBC curriculum and its implementation."*

"The grade one teacher is adequately trained because she attends all in-service trainings in our zone. She has never gone for benchmarking due to lack of funds and the workload in her class. She also attends a professional development programme."

The researcher was able to conduct an interview among the CSOs to establish the influence of teacher characteristics on the implementation of CBC. One of them said the following,

"All grade one teachers in this zone have received in-service training on implementation of CBC. They attend the trainings twice or thrice per term. The teachers are trained in all activity areas, so they are fully trained." The teachers do not go to other schools for benchmarking on implementation of CBC because there are no funds to support them and also they can't leave Learners unattended and there is a lot to cover in the curriculum. All the teachers have fully embraced CBC."

Findings are in agreement with Eggan and Sahak (2011), who indicated that teachers' views and attitudes are important for efficient teaching and as they affect learners' performance.

4.5 Application of teaching Pedagogy and Implementation of Grade One CBC

The second objective aimed at examining the extent to which the application of teacher pedagogy influences effective implementation of CBC in Mbooni East Sub-County, Makueni County. Teachers were asked to tick on the extent to which they agree with statements related to teacher characteristics. Findings are presented in Table 4.4 below.

Table 4.4: Influence of Teacher Pedagogy

Key: S.A-Strong Agree, A-Agree N-Neutral, D- Disagree, SD-Strongly Disagree

Statements	**SA**		**A**		**N**		**D**		**SD**		**M**
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	
Preparation and content knowledge for effective implementation of CBC	11	30.6	14	38.9	6	16.7	2	5.6	3	8.3	2.57
Adaption of instructional style to different learners	2	5.6	19	52.8	12	33.3	1	2.8	0	0	2.35
Creativity and imagination during the teaching and learning process	2	5.6	31	86.1	1	2.8	0	0	0	0	1.92
Improvisation of teaching and learning resources using locally available materials to suit an activity area	2	5.6	18	50.0	16	44.4	0	0	0	0	2.39
Selection of appropriate teaching and learning approach to facilitate an activity area on pupil's thinking and learning	3	8.3	32	88.9	1	2.8	0	0	0	0	1.94

N=36

Table 4.4 shows that the teachers agreed that; (69.5%) of grade one teachers were fully/adequately prepared with content knowledge for effective implementation of CBC, (16.7%) were neutral and (13.9%) of teachers disagreed that they were adequately prepared with content knowledge. The study also revealed that (58.4%) of the teachers were able to adapt their teaching styles to different learners, (33.3%) of the grade one teachers were neutral in adapting their teaching styles to different learners whereas only (2.8%) of the teachers disagreed that they were not able to adapt their teaching styles to different learners. The majority of grade one teachers (91.7%) agreed that they apply creativity and imagination during teaching and learning process, while (2.8%) were

neutral on application of creativity and imagination during teaching and learning process. Slightly more than half (56.6%) of the grade one teachers agreed that they improvise teaching and learning resources using locally available materials to suit an activity area, however, (44.4%) of the teachers were neutral on improvisation of teaching and learning materials. The study also showed that (97.2%) of the grade one teachers were able to select appropriate teaching and learning approach to facilitate an activity area on pupil's thinking and learning, whereas (2.8%) of the grade one teachers disagreed. The data shows that the teachers have adequate pedagogy skills to effectively implement CBC. The teachers are also ready to implement any teaching methodology that may be suggested for effective implementation of CBC.

Findings support Baumert, Kunter and Voss (2010) that teachers' activity content knowledge affects how they deliver their content during classroom instructions and the learners' achievement. For them to implement curricular effectively, teachers require to have a knowledge and subject matter component. These views are also supported by Blomek and Delaney (2012), studies who posit that knowledge and skills for teachers are critical for the teaching learning process.

The researcher interviewed head teachers to examine the extent to which the application of teacher pedagogy influenced the implementation of CBC. The head teachers were asked where the grade one teachers were adequately prepared with content knowledge and if the teachers were able to improvise teaching and learning resources using locally available materials. Two of the head teachers had the following,

"*The grade one teacher is adequately prepared with content knowledge; she can adapt her teaching styles to different learners and is average in creativity and imagination. She is able to select appropriate teaching and learning approaches to facilitate an*

activity area on pupils' thinking and learning. She tries to improvise teaching and learning resources using locally available materials."

He is adequately prepared with content knowledge; he adapts his teaching styles to different learners. He is excellent in creativity and imagination. He selects appropriate teaching and learning approaches to facilitate an activity area on pupils' thinking and learning. He is also excellent in improvisation of teaching and learning resources using locally available materials."

The researcher interviewed the CSOs to examine the extent to which the application of teacher pedagogy influenced the implementation of CBC. One had this to say,

"*The grade one teachers are adequately prepared with content knowledge and are able to adapt their teaching styles to different learners. Not all teachers are good in improvising teaching and learning resources using the locally available materials. They are able to select effective teaching and learning approaches to facilitate activity areas on pupil' thinking and learning."*

These study observations are in agreement with Zeiger (2018), study who indicated that those teachers need important knowledge, skills, and ability in interacting with students and setting manageable learning standards.

4.6 Use of Learning Support Resources and Implementation of Grade One CBC

The third objective assessed how learning support resources influence effective implementation of CBC in Mbooni East Sub-County, Makueni County. Teachers were asked to tick on the extent to which they agree with statements related to learning support resources. Findings are presented in Table 4.5.

Table 4.5: Influence of Learning Support Resources
Key: S.A-Strong Agree, A-Agree N-Neutral, D- Disagree, SD-Strongly Disagree

Statements	**SA**		**A**		**N**		**D**		**SD**		**M**
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	
Use of ICT to prepare and teach	0	0	1	2.8	9	25.0	15	41.7	11	30.6	3.37
Use of computer and projector to teach	0	0	5	13.9	8	22.2	12	33.3	11	30.6	3.81
Assignment of tasks and activities to pupils that require using ICT and internet	0	0	0	0	11	30.6	17	47.2	8	22.2	3.92
Use of mobile phone applications to teach	1	2.8	30	83.3	3	8.3	2	5.6	0	0	2.17

N=36

Table 4.5 shows that majority of the teachers (72.3%) disagreed that; they used ICT to prepare and deliver lessons, (25%) of the teachers were neutral and (2.8%) agreed they were able to use ICT to prepare and deliver lessons. The data also shows that, (63.9%) were not able to use a computer and projector to teach, while (22.2%) were neutral and (13.9%) agreed that they were able to a computer and projector to teach. At the same time, (69.4%) of the grade one teachers disagreed that they assign their learners learning tasks and activities that need the utilization of ICT and internet, however, (30.6%) of the teachers were neutral on assigning their pupils tasks that require using ICT and internet. The teachers agreed that they can use mobile phone applications to teach. The data imply that there are no adequate resources for effective implementation of CBC. Some schools have limited ICT resources while others do not have either the computer or tablet. The teachers were hence not able deliver content using the ICT resources which are very crucial for demonstrations.

Findings concur with Ndayambaje (2016) who highlighted lack of sufficient teaching-learning resources as one of the issues hindering effective implementation of CBC. Hennesy et. al. (2010) also supported this view that the the greatest hindrance in the implementation of ICT was as a result of decimal levels of teacher education in their know-how and skills in ICT. The finding also supports KICD (2018) report on CBC implementation which found that 61 percent of teachers are untrained in ICT. Findings support Hardy (2003) who noted that pre-service and in-service teachers felt that they were not well equipped and sufficiently prepared with the ICT skills.

The third objective focused on how learning resources affect the implementation of CBC. The researcher conducted interviews with the head teachers and the CSOs. The head teachers shared the following,

"*The grade one teacher is allowed to use the laptop and tablets available in the school though she has challenges on ICT. The school has no reliable power supply and has challenge with internet connectivity. The grade one teacher is allowed to use her mobile phone during teaching and learning process to integrate ICT."*

"The school has limited power supply and internet connectivity. The tablets available are not adequate and some are not in use. We have only one tablet used by all teachers, so sometimes it's difficult for grade one teacher to use it. The school has no projector. The school has inadequate teaching resources that are provided by the government so teachers sometimes dig into their pockets to buy internet bundles"

The CSOs said the following during the interview,

"Many schools in this zone have challenges in power supply and internet connectivity. All the teachers are encouraged to use ICT when implementing CBC although some teachers have challenges in ICT. I encourage all teachers to go for ICT training to be competent in using ICT tools during teaching and learning process. The schools do not adequate teaching and learning resources especially on ICT tools."

These study results are in agreement Chan (2014), who pointed out those points out that tutor's willingness and readiness are two important components that lead to proper adoption and implementation of ICT in the curriculum implementation and teaching-learning process. These study findings also are in agreement with KICD report on curriculum that explained that teachers 61% of teachers were not trained on ICT integration. The report went on to say that teachers digital competent is important and one of the main competencies for CBC. It is expected that development and integration of new generation (Web 2.0) technologies will have a great effect on instruction and learning (Dede, 2008; McLoughlin& Lee, 2010). According to Awidi & AldhaFeeri (2017), teachers are required to possess instructional and technical skills that enable them to timely and efficiently accommodate and incorporate ICT technologies in teaching and learning.

Classroom observation was done in 36 schools. The researcher filled an observation checklist on grade one teachers' professional documents. The classrooms and the computer labs were observed to assess whether they had been developed in readiness for the implementation of effective CBC.

The observation schedule results shows that the most used teaching and learning resources that were readily available in some schools includes and not limited to text books (12, 100%), Assessment books (8, 66%), Rubrics (8, 66.7%) computer labs (4, 58.3%), Tablets (7, 58%), Computers (7, 58.3), Portfolios (7, 41.7), Libraries (6, 50%), Projectors (3, 25%), and Work books (3, 25%). On the other hand, the same resources were not available in some school represented by the numbers presented and percentages as follows: text books (0, 0%), Assessment books (4, 33.3%), Rubrics (4, 33.3%) Computer labs (8, 66.7%), Tablets (5, 41.7%), Computers (5, 41.7%),

Portfolios (7, 58.3%), Libraries (6, 50%), Projectors (9, 75%), and Work books (9, 75%)

Findings show that majority of the primary schools lacked essential materials for implementation of CBC. Although classes and textbooks were available in all schools, there was acute shortage of science labs computer labs, computers, projectors, and work books. The school administrators have however made efforts to provide school libraries, assessment books, portfolios, and rubrics. Teachers are therefore facing challenges in implementation of the curriculum since they cannot achieve much without the teaching and learning resources.

The observation support Wayne & Young's (2003) who asserts that, in an ideal school infrastructure programme, the school building should be well planned, spaciously, functionally and with pleasing architectural features. The rooms of the building should be spacious and ventilated with all facilities like fans etc. While constructing a school building one must keep in mind the school buildings should have different facilities such as a library, different types of laboratories, workshops, art and craft rooms, staffroom, principal's office, school office, multimedia room, conference room or theatre along with assembly ground, gymnasium among others (McCarthy & Guiney, 2004). Research shows that teacher retention is higher when school facilities are in better shape (McCarthy & Guiney, 2004).

4.7 Teachers' Instructional Support and Effective Implementation of Grade One CBC

The fourth objective evaluated the extent to which teacher's instructional support influence effective implementation of CBC in Mbooni East Sub-County, Makueni

County. Teachers were asked to tick on the extent to which they agree with statements related to teacher's instructional support. The data is presented in Table 4.6.

Table 4.6: Influence of Teacher's Instructional Support
Key: S.A-Strong Agree, A-Agree N-Neutral, D- Disagree, SD-Strongly Disagree

Statements	**SA**		**A**		**N**		**D**		**SD**		**M**
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	
Provision of instructional materials by head teacher	1	2.8	4	11.1	7	19.4	14	38.9	10	27.8	3.68
Head teacher and CSO closely monitors the curriculum delivery	8	22.2	17	47.2	1	2.8	10	27.8	0	0	2.55
School management provides benchmarking opportunities with other schools	1	2.8	2	5.6	2	5.6	18	50.0	13	36.1	4.11
School management supports the use of ICT in teaching and learning	10	27.8	25	69.4	0	0	0	0	1	2.8	2.16
Encouraging of grade one teachers to acquire ICT skills through training and professional development programs	1	2.8	23	63.9	9	25.0	1	2.8	0	0	2.29

N=36

Table 4.6 shows that majority, (66.7%) of the grade one teachers disagreed that; the head teacher provides enough instructional materials, (19.4%) of the grade one teachers were neutral while (13.9%) of the grade one teachers agreed that the head teachers provide enough instructional materials. The data also showed that, (69.4%) of grade one teachers agreed that the head teacher and the CSO closely monitor the curriculum delivery, while (27.8) disagreed and (2.8%) of the teachers were neutral on that the head teacher and CSO monitor curriculum delivery. Majority of the grade one teachers,

(86.1%) disagreed that the school management provides benchmarking opportunities with other schools, at the same time, (8.4%) agreed that the school management provided opportunities for benchmarking with other schools and (5.6%) of the teachers were neutral on the management allowing opportunities for benchmarking with other schools. The data provided a record majority (97.2%) of the teachers was in agreement that school management assist in the use of ICT in the teaching and learning process. This is a very small proportion (2.8%) of the teachers disagreed that school management supports the use of ICT in teaching and learning. The study also revealed that, (66.7%) of grade one teachers agreed that the head teacher encourages them to acquire ICT skills through training and professional development programmes, (25%) of the teachers were neutral while (2.8%) disagreed that the head teacher encouraged them to acquire ICT skills through training and professional development programmes. This data implies that the head teacher and the effective assurance officers make efforts to carry out instructional supervision. This helps to check whether teachers are competent in preparation of professional document like schemes of work and work plans. When teachers are often supervised, they prepare their professional records on time and put more efforts to cover syllabus on time.

Findings are in support of Ajuoga (2010) that education reforms often fail due to ineffective and insufficient supervision. Owen (1992) further indicated that that it's the responsibility of all school managers to bring improvements in teaching and instruction by developing effective instructional leadership from the head teachers.

The researcher also conducted interviews to evaluate the extent to which teacher's instructional support influence implementation of CBC. The head teachers had this to say,

"I don't provide enough instructional materials because the government provides limited instructional materials. I closely monitor grade one teacher during curriculum delivery. I support the use of ICT in the teaching and learning process. The school has no funds to support grade one teacher to attend benchmarking in other schools and also it's not done in this zone. I encourage the grade one teacher to acquire ICT skills through training and professional development programmes."

"I don't provide enough instructional materials because they are limited according to the budget offered to the school. I closely monitor the grade one teacher on curriculum delivery. I really support the use of ICT in the teaching and learning process. Grade one teacher doesn't attend benchmarking with other schools because of lack of funds and there is a lot of workload so the learners cannot be left unattended. I am always encouraging the grade one teacher to acquire ICT skills through training and professional development programmes."

The researcher conducted interview with the CSOs to evaluate the extent to which teacher's instructional support influence the implementation of CBC. One of them said this,

"I closely monitor grade one teachers in this zone on curriculum delivery and also support the use of ICT in teaching and learning process. I encourage all grade one teachers to acquire ICT skills through training and professional development programmes."

These observations reinforce Waweru (2005), who explained that it's the obligation of DQAS to improve the standards of education in Kenya. This body is charged with the responsibility of ensuring that there is smooth curriculum implementation in Kenya. They ensure that proper actual teaching is done and also help in coming up with approaches for improving teaching and learning. Their work includes observation, employment of the supervisee self-evaluation, assessment, remarks and the acquisition of the information and competencies (Stephen, 2014).

The grade one teachers have been conducting assessments to know the learners' progress. They give learners three tests per term; also they give oral questions and written exercises after every lesson. They conduct these assessments in order to check on knowledge, skills and attitudes of learners in effective implementation of CBC. The available portfolios were 41.7% which is below average; however, 58.3% was unavailable. The teachers need to help learners in preparing the portfolios as well as guide them in keeping their work done during teaching and learning process. This will also help the teacher to know his or her learners' progress. The researcher observed that the majority (66.7%) of the grade one teachers had prepared rubrics for their learners and only few teachers (33.3%) had not prepared the rubrics. This shows that the teachers are helping learners improve in their competencies thus implementing CBC.

According to Rugambuka (2012) a well-trained teacher using the CBC curriculum is should have the capacity to plan, deal with the scope, the series of subject matter to be instructed in advance, and also putting abilities of students in a systematic manner to avoid ambiguity and irrelevance. Good teacher should plan, prepare and assemble the instructional resources, organize concepts and skills in a proper manner. They are expected to use appropriate pedagogy to achieve the desired curriculum instructional goals. In addition, teachers are expected to select, design and actualize appropriate assessment methods to execute the learning and teaching process.

The researcher observed that all the teachers (100%) in grade one had prepared professional documents. The teachers had prepared lesson plans, lesson notes and schemes of work to use in the process of teaching and learning. The teachers' documents were up to date thus showing effective implementation of CBC.

A reflective lesson plan is important for a teacher and is expected that teachers should not teach in the absence of a reflective lesson plan because this is taken to important for teaching and learning (Coppole et.al. 2004). Teacher may need to create lesson plans and schemes of work within the framework of the given curriculum since the teacher's responsibility is to implement the curriculum to meet the learner's needs (Carl, 2009).

The researcher observed that majority of the schools did not have computer labs (66.7%) and few schools had computer labs (33.3%). Slightly above average of the schools (58.3%) had computers and (41.7%) of the schools had no computers. Half of the schools had libraries accessible to the learners while the half had no libraries. The researcher observed that all the schools had adequate text books, however, there were few workbooks in grade one (25.0%) and majority of the schools (75%) had shortage of workbooks in grade one.

According to a report in Japan (January, 2014), research has established that utilization of ICT technologies can lead to reinforcement of student teaching and learning and better method of teaching and evaluation. Buabeng-Andoh (2012), assert that the use of ICT in education is a good ingredient the teaching-learning procedure since it improves the efficiencies of learning through the addition of dimensions that were previously available. ICT acts as a motivational factor to teaching and learning at the classroom level by providing learners and teachers with supportive interactions and collaborative learning.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter focuses on the summary of the study and conclusions. It also presents recommendations for potential actions and suggestions for future research.

5.2 Summary of Findings

With respect to first objective, findings show that; teachers have received in-service training in readiness for the implementation of effective CBC; they do not visit other schools for bench-marking on the effective implementation of CBC. The teachers attend professional development programs to acquire more training on CBC implementation, all grade one teachers have fully embraced the CBC, and female teachers are better suited to handle grade one learners more than the male teachers in implementation of CBC.

In line with the second objective, results show that teachers are fully/adequately prepared with content knowledge for effective implementation of CBC, they improvise teaching and learning resources using locally available materials to suit an activity area, they can adapt any teaching style to different learners, they can select appropriate teaching and learning approach to facilitate an activity area on pupil's thinking and learning, and they apply creativity and imagination during the teaching and learning process.

Findings of the third objective show that; teachers do not assign learners tasks and activities that require using ICT and internet, they cannot use a computer and projector

to teach, and they do not use ICT to prepare and teach their lessons. The teachers can use mobile phone applications to teach.

Regarding the fourth objective, findings show that the school management does not provide benchmarking opportunities with other schools, and the head teachers do not provide enough instructional materials. The head teacher and the CSO closely monitors the curriculum delivery, the head teacher encourages grade one teachers to acquire ICT skills through training and professional development programs, and school management supports the use of ICT in teaching and learning.

5.3 Conclusion

Teachers were prepared to implement CBC. Instructors held positive perceptions towards execution of CBC since they have fully embraced the curriculum. Some of the teachers take advantage of training opportunities to advance the skills in implementation of CBC while others are not concerned with skills development. Female teachers are more preferred to implement the curriculum than male teachers. This could be due to the age of the learners who may feel more comfortable to carry out some activities with female teachers who they may perceive as their mothers or care givers.

The government has made efforts to train teachers in the new curriculum. This has enabled the grade one teachers to effectively change from content based to Competency Based Curriculum. The trainings are however not done frequently meaning that some of the teachers may not have understood some concepts. This is particularly the teaching methodologies to effectively deliver content in the Competency Based

Curriculum. There is poor content delivery which may also influence pupils' assessment in Competency Based Curriculum.

There is acute shortage of teaching and learning resources to facilitate effective implementation of CBC. Majority of the schools are only able to provide resources like the chalks, and text books but ICT resources which are essential for demonstrations are inadequate. The school head teachers have limited funds to provide the resources needed to fully implement the program. No productive teaching is delivered in the absence of sufficient teaching and learning resources, since pupils basically grasp by engaging with the resources which are already there in their surroundings. Unavailability of resources has forced teachers to improvise the resources using locally available materials.

The head teachers and curriculum support officers are making efforts to supervise implementation of the program. This ensures that there is less teacher absenteeism, lessons are well planned, and the recommended teaching and assessment methods in CBC are adhered to. The head teachers have limited funds and are not able to facilitate the teachers for benchmarking to others schools that may have implemented the curriculum effectively. The head teachers also have limited time to carry out instructional supervision due to work load. There is also teacher shortage so benchmarking would mean that no lessons would take place or the pupils merged in one class which is not conducive for learning.

5.4 Recommendations of the study

i. The grade one teachers in collaboration with parents provide locally available teaching learning resources to ease implementation of CBC.

ii. Head-teachers invite resources persons during Parents Teachers Association meetings to sensitize and create awareness of CBC to teachers and parents in fully supporting implementation of the curriculum.

iii. The KICD should prepare soft copies of schemes of work and lesson plans for teachers in order to ease the burden.

iv. The government should purchase more computers in schools for successful integration of technology in CBC program due to increasing population in schools. The purchasing of teaching and learning resources should also be prioritized especially for practical work and preparation of teaching aids for teachers.

v. The head teachers should carry out regular classroom visits to ensure effective teaching, learning, and content delivery is in line with the recommended curriculum.

5.5. Suggestions for Further Study

The researcher suggests the listed areas for further study.

i. Similar study in public primary schools in another sub-county in Makueni County to compare and contrast the findings.

ii. A similar study should be conducted targeting other grades under CBC. This may be from grade two to six.

iii. A study on preparedness of primary school administrators in implementation of CBC in the county.

iv. A study to find out how the teachers' teaching methods influence the implementation of CBC in public primary schools in Kenya.

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APPENDICES

APPENDIX I: LETTER OF INTRODUCTION TO THE RESPONDENTS

Maria Ndolo Nguvi
P.O Box 1836
Machakos
0718 463 802

Through the Head teacher

Dear Respondent,

RE: RESEARCH PROJECT QUESTIONNAIRE

I am a postgraduate student at Machakos University pursuing a Master's degree and currently I am carrying out a research on **'School Related Factors Influencing Effective Implementation of Grade One Competency Based Curriculum in Mbooni East Sub-County, Makueni County, Kenya'**

You have been selected to participate in this study. I would appreciate if you would kindly assist me by responding to the items in the questionnaire attached. Please give honest answers and opinions. You are assured that your identity will be treated with utmost confidentiality and the data collected will be used only for the purpose of this academic study. Thank you in advance.

Yours faithfully,

Maria Ndolo
E55-2798-2019

APPENDIX II: QUESTIONNAIRE FOR GRADE ONE TEACHERS

Dear Sir/Madam,

This questionnaire is meant to collect data on school related factors influencing the effective implementation of Competency-Based Curriculum (CBC) in grade one in Mbooni East Sub County. It contains both open and closed-ended questions. The respondents are requested to answer all questions to the best of their ability.

SECTION A: Demographic Information

Please tick appropriately

1. Gender: Male ☐ Female ☐

2. Highest level of education

Secondary ☐ Tertiary ☐ University ☐

SECTION B: Teacher's Characteristics and the Implementation of CBC

Rate the extent to which you agree with the following statements on teacher training, attitude and gender, by ticking in the box.

Key: S.A-Strong Agree, A-Agree N-Neutral, D- Disagree, SD-Strongly Disagree

Teachers' activities	**SA**	**A**	**N**	**D**	**SD**
I have received in-service training in readiness for the implementation of effective CBC					
I visit other schools for benchmarking on the effective implementation of CBC					
All grade one teachers have fully embraced the CBC					
Female teachers are better suited to handle grade one learners more than the male teachers					
I attend professional development programs to acquire more training on CBC implementation					

SECTION C: Application of Teacher's Pedagogy and the Implementation of CBC

Statement	SA	A	N	D	SD
I am fully/adequately prepared with content knowledge for effective implementation of CBC					
I can adapt my teaching style to different learners					
I apply creativity and imagination during the teaching and learning process					
I improvise teaching and learning resources using locally available materials to suit an activity area					
I can select appropriate teaching and learning approach to facilitate an activity area on pupil's thinking and learning					

SECTION D: Learning Support Resources and the Implementation of CBC

Statement	SA	A	N	D	SD
I use ICT to prepare and deliver my lessons					
I can use a computer and projector to teach					
I assign my pupils tasks and activities that require using ICT and internet					
I can use mobile phone applications to teach					

SECTION E: Teacher's Instructional Support and the Effective Implementation of CBC

Teacher's Instructional Support	SA	A	N	D	SD
The head teacher provides enough instructional materials					
The head teacher and the CSO closely monitors the curriculum delivery					
The school management provides benchmarking opportunities with other schools					
School management supports the use of ICT in teaching and learning					
The head teacher encourages grade one teachers to acquire ICT skills through training and professional development programs					

Thanks for the cooperation

APPENDIX III: LEARNING SUPPORT RESOURCES

The grade one teachers observed the available learning resources in their schools and filled in the following checklist.

Resources	**Available**	**Not Available**
1. Classrooms	☐	☐
2. Libraries	☐	☐
3. Computer Labs	☐	☐
4. Science Labs	☐	☐
5. Text books	☐	☐
6. Computers	☐	☐
7. Work books	☐	☐
OTHERS		
1. Tablet	☐	☐
2. Projectors	☐	☐
3. Assessment books	☐	☐
4. Portfolios	☐	☐
5. Rubrics	☐	☐

APPENDIX IV: INTERVIEW GUIDE FOR HEAD TEACHERS

This is an interview schedule to study school related factors influencing effective implementation of CBC. It contains both open and closed ended questions. The respondents are requested to answer all the questions to the best of their ability.

SECTION A: Demographic Information

Tick appropriately

1. Gender: Male ☐ Female ☐

2. Highest level of education

Secondary ☐ Tertiary/college ☐ University ☐

SECTION B: Teacher Characteristics and the Effective Implementation of CBC

1. Have your grade one teachers attended any in-service training in CBC?

……

……

2. Are all grade one teachers competent in all the specific activity areas they teach?

……

……

SECTION C: Application of Teacher's Pedagogy and the Effective Implementation of CBC

1. Are the teachers able to prepare lesson plans with all the required CBC aspects?

……

……

2. In what ways do you ensure the time teachers take in lesson planning does not eat into their teaching time?

……

……

SECTION D: Learning Support Resources and Effective Implementation of CBC

1. Do you allow grade one teacher's opportunities to use computers during teaching?

……

……

2. Do you provide the grade one teachers with adequate teaching and learning resources?

……

……

SECTION E: Teacher's Instructional Support and the Effective Implementation of CBC

1. How often do your grade one teachers attend professional development programs?

……

……

2. Do your teachers visit other grade one teachers for benchmarking on CBC implementation?

……

……

APPENDIX V: INTERVIEW GUIDE FOR CSOS

This is an interview guide to study School Related Factors Influencing Effective Implementation of CBC. It contains both open and closed-ended questions. The respondents are requested to answer all the questions to the best of their ability.

SECTION A: Demographic Information

Tick appropriately

1. Gender: Male ☐ Female ☐

2. Highest level of education

Tertiary/college ☐ University ☐

SECTION B: Teacher Characteristics and the Effective Implementation of CBC

1. Are all grade one teachers trained on CBC curriculum?

……

……

2. Do your grade one teachers attend in-service training for effective implementation of CBC?

……

……

SECTION C: Application of Teacher's Pedagogy on the Effective Implementation of CBC?

1. Do all grade one teachers follow the aspects of CBC when teaching and learning?

……

……

2. Are all grade one teachers able to infuse all competencies in CBC when teaching?

……

……

SECTION D: Learning Support Resources and Effective Implementation of CBC

1. Have you provided adequate textbooks for all the grade one learners and teachers?

……

……

2. How is the ration of computer per learner?

……

……

SECTION E: Teacher Instructional Support and the Effective Implementation of CBC

1. How often do you do monitoring and supervision in grade one?

……

……

2. How do you ensure all grade one teachers attend professional development programs?

……

……

APPENDIX VI: OBSERVATION CHECKLIST

The researcher observed on effective implementation of CBC in order to measure the dependent variable.

Effective Implementation of CBC

Improved Learner Competencies

-Assessments

-Portfolios

-Rubrics

Development of Learner Activities

-Lesson plans

-Lesson notes

-Schemes of work

Effective Learning Environment

-Computer labs with computer

-Library accessible to learners

-Adequate textbooks and workbooks

APPENDIX VII: LETTER FROM GRADUATE SCHOOL

MACHAKOS UNIVERSITY
OFFICE OF THE DEAN GRADUATE SCHOOL

Telephone:254-(0)735247939, (0)723805929
Email: graduateschool@mksu.ac.ke
Website: www.machakosuniversity.ac.ke

P.O Box 136-90100
Machakos
KENYA

REF. MksU/GS/N/036/VOL.1

5th October, 2022

The Director,
National Commission for Science, Technology and Innovation,
P.O Box 30623,
NAIROBI.

Dear Sir,

RE: MARIA NDOLO (E55/2798/2019)

The above named is a Master's student in the second year of study and has cleared course work. The University has cleared her to conduct a research entitled: **"School Related Factors Influencing Quality Implementation of Preschool Competency Based Curriculum in Mbooni East Sub-County, Makueni County, Kenya."**

Kindly assist her with a Research Permit in order to undertake the research.

Thank you

DEAN OF GRADUATE SCHOOL
P.O. BOX 136 - 90100, MACHAKOS
05 OCT 2022
MACHAKOS UNIVERSITY

PROF. KIMITI RICHARD PETER, PhD
DEAN GRADUATE SCHOOL

KRP/gmk

APPENDIX VIII: NACOSTI PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **844472**

Date of Issue: **22/October/2022**

RESEARCH LICENSE

This is to Certify that Ms.. maria ndolo nguvi of Machakos University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Makueni on the topic: SCHOOL RELATED FACTORS INFLUENCING QUALITY IMPLEMENTATION OF PRESCHOOL COMPETENCY BASED CURRICULUM IN MBOONI EAST SUB-COUNTY, MAKUENI COUNTY, KENYA for the period ending : 22/October/2023.

License No: **NACOSTI/P/22/21127**

844472

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

APPENDIX IX: RESEARCH AUTHORIZATION FROM COUNTY DIRECTOR OF EDUCATION MAKUENI COUNTY

OFFICE OF THE PRESIDENT
MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telegram:
Telephone: 0101-362-089
Fax:
Email: *cc.makueni@interior.go.ke*

COUNTY COMMISSIONER
MAKUENI COUNTY
P.O. Box 1-90300
MAKUENI

Ref: MKN/CC/ADM.6/1 VOL.V/41

24th October, 2022

Ms. Maria Ndolo Nguvi
MACHAKOS UNIVERSITY

RE: RESEARCH AUTHORIZATION

Reference is made to Director General National Commission for Science Technology and Innovation Research License **Ref. No. NACOSTI/P/22/21127** dated **22nd October, 2022** on the above subject.

You are hereby authorized to undertake research on **"School Related Factors influencing quality implementation or preschool competency based curriculum in Mbooni East Sub County, Makueni County** "for the period ending **22nd October, *2023.***

By a copy of this letter the Deputy County Commissioner, Mbooni East Sub County is requested to give you the necessary assistance.

COUNTY COMMISSIONER MAKUENI COUNTY 24 OCT 2022 P.O. BOX 1-90300 MAKUENI

J. M. MWANGALA
FOR: COUNTY COMMISSIONER
MAKUENI

c.c.
County Director of Education
MAKUENI

Deputy County Commissioner
MBOONI EAST SUB COUNTY

APPENDIX X: RESEARCH AUTHORIZATION FROM COUNTY COMMISSIONER MAKUENI COUNTY

REPUBLIC OF KENYA

MINISTRY OF EDUCATION

STATE DEPARTMENT OF EARLY LEARNING AND BASIC EDUCATION

Email:cdemakueni@gmail.com
When replying please quote

County Director of Education Office
P.O. Box 41-90300
MAKUENI

MKN/C/ED/5/33 VOL.II/137

24th September, 2022

Ms. Maria Ndolo Nguvi
Machakos University
MACHAKOS

RESEARCH AUTHORISATION FOR MS. MARIA NDOLO NGUVI

This office is in receipt of a letter from the Director General, National Commission for Science Technology and Innovation dated 22nd October, 2022 **Ref. NO. 844472 NACOSTI/P/22/21127 on "School related factors influencing quality implementation of Pre-school Competency Based Curriculum in Mbooni East,** Makueni County -Kenya" for the period ending **22nd October, 2023.**

Following this authorization, you are allowed to proceed with your research as requested.

COUNTY DIRECTOR OF EDUCATION * DATE: 24/10/2022 P.O. BOX 41-90300 MAKUENI COUNTY

Robinson K. Kiarii
For County Director of Education
MAKUENI

APPENDIX XI: RESEARCH LOCATION MAP