

**ANTECEDENTS OF COMPETENCE BASED CURRICULUM AND ITS
EFFECTIVE IMPLEMENTATION IN PUBLIC PRIMARY SCHOOLS IN
THARAKA NITHI COUNTY, KENYA**

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**A Thesis Submitted to the Graduate School in Partial Fulfilment for the
Requirements for the Award of the Degree of Doctor of Philosophy in
Educational Management of Tharaka University**

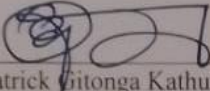
THARAKA UNIVERSITY

NOVEMBER 2023

DECLARATION AND RECOMMENDATIONS


Declaration


This thesis is my original work and has not been presented for an award of a diploma or conferment of degree in any University.

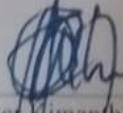
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DEDICATION

This thesis is dedicated to my dear wife, Florence Muthoni and our beloved sons Wycliff Muthomi, Collins Mugendi and Mike Murimi.

ACKNOWLEDGEMENT

First, I want to express my heartfelt gratitude to the Almighty God, for His unwavering support, blessings, and guidance throughout my entire academic journey. Without His divine intervention, none of this would have been possible.

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ABSTRACT

Due to Global trends in education, countries are engaged in curriculum reforms that emphasize and incorporate competencies into their vision and design. The goal is to provide learners with the knowledge, skills and competencies needed to thrive in the 21st century. The current study sought to investigate the antecedents of competence based curriculum and its effective implementation in public primary schools in Tharaka Nithi County, Kenya. A combination descriptive survey research design and correlational research design were employed in this study. Individualized Theory developed by Fred Keller Gilmour Sharman (1968) and System Theory of Management founded by Ludwig Von (1968) guided the study. The study targeted a population of 4394 respondents comprised of head teachers, teachers, sub county director of education and Teachers Service Commission sub county directors in Tharaka Nithi County. A cluster sampling technique was employed to select proportionately 25% of the total number of schools in each sub county. All head teachers in the sampled schools were chosen for the study. Proportionate sampling techniques was used to select one grade five teacher and one grade six teacher. Teachers Service Commission sub county directors and sub county directors of education were purposively sampled. A total of 333 respondents were included in the sample, comprising 109 head teachers, 218 classroom teachers, 3 Teachers Service Commission sub county directors, and 3 sub county directors of education. To gather information from the study respondents, a questionnaire and interview schedule were employed. Cronbach alpha Correlation Coefficient estimated a correlation coefficient of 0.732 thus, the instruments were deemed reliable. Quantitative data was analysed by use of descriptive statistics to determine frequency and percentage whereas qualitative data were subjected to thematic analysis. Data was analysed with the aid of statistical Package for Social Science (SPSS) Version 26. Hypotheses were tested using simple linear regression statistics at alpha =0.05 significant level. Data was presented in form of frequency distributions and percentages. The study findings indicated there was inadequate physical facilities, digital literacy teaching and learning materials and practical learning materials which negatively affect effective implementation of competence based curriculum, there was insufficient support staff to effectively carry out the curriculum, teachers lacked the necessary preparation to successfully integrate competence based curriculum in their classrooms and government allocated funds for the successful implementation of competence based curriculum were deemed insufficient. Except for adequacy of human resources, which was found to be positively significant but insignificant to the effective implementation of competence based curriculum, the study's findings show a significant relationship between adequate physical resources, competency of human resources, and financial resources and effective implementation of competence based curriculum. The study recommends provision of adequate physical facilities, hiring of additional human resource, continual training of teachers and provision of adequate financial resources. The findings of this study would be useful to the government and all stakeholders in education to come up with clear policies and approaches to ensure successful implementation of competence based curriculum. This finding will also form a basis for further research.

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LIST OF ABBREVIATIONS AND ACRONYMS

AFR	Adequacy of Financial Resources
AHR	Adequacy of Human Resources
APR	Adequacy of Physical Resources
CBC	Competence Based Curriculum
CBET	Competence Based Education and Training
CBT	Competence Based Training
CDE	County Director OF Education
CHR	Competence of Human Resources
CSO	Curriculum Support Officer
ECDE	Early Childhood Development Education
GOK	Government of Kenya
ILO	International Labour Organization
KEBS	Kenya Bureau of Statistics
KICD	Kenya Institute of Curriculum Development
KNUT	Kenya National Union of Teachers
MOE	Ministry of Education
MOGE	Ministry of General Education
NACOSTI	National Commission for Science Technology and Innovation.
OECD	Organisation for Economic Co-operation and Development
QASO	Quality Assurance and Standards Officer
ROK	Republic of Kenya
SPSS	Statistical Package for Social Science
TIQET	Total Integrated Quality Education and Training
TSC	Teachers Service Commission
TVET	Technical and Vocational Education and Training
UBE	Universal Basic Education
VIF	Variance Inflation Factor

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The push to equip students with the relevant knowledge, abilities, and competencies required to succeed in the twenty-first century, nations around the world are updating their curricula more often (OECD, 2016). For a curriculum that is current and comprehensive, many nations have embraced a competence based curriculum (CBC) education system. According to Jallow (2011), competence is attained through gaining a skill or mastery of a certain body of knowledge. According to Mosha (2012), competence is the information, abilities and behaviors one should have acquired to carry out duties in the classroom and at work. Therefore, competence is defined as a unique combination of knowhow, attitudes and capabilities that allow an individual to successfully carry out the tasks associated with a particular profession or role to the standard levels anticipated.

Competence based curriculum, according to Jallow (2011), aims to give students the skills necessary to know what to do, how to do it, and how to establish good and lively working relationship with others. It is a learner-centered curriculum where the learner is expected to obtain knowledge and apply skills in future life experiences (Butova, 2015). The ultimate goal of CBC is to instil in learners the ability to absorb and do activities to expected standards; such a curriculum describes explicit outcomes which outline the capabilities to be achieved (Maodzwa & Cross, 2012). A CBC, according to Wangeja (2010), is one in which knowledge is created rather than communicated and in which prior knowledge affects the learning process. According to Mulder (2014), CBC places a strong emphasis on building skills as a combination of values, understanding, skills, and attitudes needed for various tasks. As a result, a competence based curriculum discourages the rote learning of information and places more focus on the development of skills. This necessitates a shift in teaching and learning strategies away from rote memorization and toward procedures that encourage the advancement of capabilities and competencies likely to be used in addressing real world matters (Woods, 2008).

Thus, CBC is a curriculum that may be used to address a nation's changing societal needs as well as technology and social economic demands. By focusing on the attainment of skills, information, behaviours, and mind sets important in executing several tasks, it seeks to address the problem of unemployment among young people.

It is usual for countries to pursue education reforms to have the best educational practices periodically. Several countries have adopted the CBC education system for a relevant and holistic curriculum with varied successes and challenges. A qualitative case study conducted by Scheopner et al., (2018) in the USA in New Hampshire's three districts to examine how the three districts implemented CBC reform at the secondary schools' level. Challenges in implementation those reforms were posted by the study. In Macedonia, Galevska and Pesic's (2018) study on CBC implementation observed that teachers in the educational process needed help to assess the knowledge accurately and adequately for special needs learners. Villamero (2014) conducted a study in Negros Oriental, the Philippines to explore how assessments of children with disabilities are conducted in conventional classrooms by three ordinary primary school teachers. The study concluded that teachers must use a variety of evaluation strategies when evaluating students with exceptional needs.

There are several requirements that must be satisfied for a competence based curriculum to be implemented successfully, including adequate physical resources, qualified human resources, and suitable levels of both human and financial resources. According to Erden (2010), material resources are fundamental for implementing a competence-based curriculum, and if anything is lacking, the CBC cannot be effectively implemented. According to Chaudhary (2015), the government is tasked with the provision of physical resources such as sports fields, workshops, libraries, classrooms, laboratories, and sports. Notably, successful implementation of CBC is partly dependent on the provision of appropriate physical resources and high-quality materials.

A research study by Akbar and Al Wazzan (2020) in Kuwait observed that Alajmi's (2021) research study also in Kuwait on impediments of CBC implementation posted a need for a more professional training and development, the evaluation procedure, instructional technologies, and teacher's guides on human resources competencies.

Cheptoo and Ramadas (2019) argued that the assumption of Competence Based Curriculum in African nations holds significant promise for providing the following generation with the skills required for success in the current competitive job market. Further, countries need to lay emphasizes on effective CBC implementation at the classroom level to increase the chances of achieving curriculum objectives. Competence based curriculum would elevate African education triumph to the global stage if and only if the antecedents needed for its rollout are attained. Also, due to the key role played by teachers, they should be included in the fundamental stages of curriculum reforms, and their professional skilfulness should be nurtured satisfactorily before implementing CBC. Crucial attention should be paid to teachers' retraining in any given curriculum adoption. More importantly, it is important to keep CBC's realignment with the African environment.

Infrastructure such as libraries, security systems, equipped laboratories, decent building, learning classrooms, reliable water supply, and lavatories are crucial for learners and teachers (Amadi and Ezeug, 2019). Their research focused on the availability of physical infrastructure and the students' academic performance in the Universal Basic Education Scheme in River State, Nigeria. Acquah, Frimpongo, and Kwame (2017) carried out a research study in Ghana to determine the difficulties encountered when implementing CBC training courses in training facilities. The study observed that CBC could not have been effective in some training institutions due to a lack of infrastructure development. The study further established that, despite achieving positive results, implementation of CBC in some of the training institutions had not been successfully because of insufficient financial support. The findings of this study imply that inadequate finances can challenge the rollout of CBCs.

A study conducted by Ambei, Kum, and Ambei (2020) in Cameroon focusing on evaluating the adoption of the Competence Based Curriculum (CBC) from the standpoint of teachers' utilization of resources established a lack of understanding on what CBC is all about by most teachers. Effective implementation remains a considerable problem, even for those with solid knowledge of the CBC, due to a lack of resources and the requirement for a thorough comprehension of how to use them. Additionally, in Zambia, Kabombwe and Mulenga (2019) did a study on how history

instructors in a chosen group of secondary schools in Lusaka, Zambia, implemented the CBC. Sixty percent of history teachers needed support to understand the CBC concept (Kabombwe and Mulenga, 2019).

Mugabo, Ozawa, and Nkundabakura (2021), examined the relationship between the ability of a school to implement CBC and its profile. The study findings indicated that differences in CBC implementation were as a result of insufficient teaching, learning resources, and infrastructure. Additionally, Ndayambaje (2018) did research in Rwanda to look at the challenges that the Competence Based Curriculum (CBC) faced when it was implemented in Rwandan schools. The study showed that inadequate tools for both teaching and learning was a key obstacle to the successful adoption of CBC in Rwanda's elementary schools.

In Tanzania, Kafyulilo, Moses, and Rugambuka (2012) conducted study that stressed the crucial role that teacher preparation plays in bringing about educational transformation. The study made clear that, in order to ensure successful curriculum implementation, a well-functioning educational system should place a strong priority on continual teacher retraining. The Competence Based Curriculum acknowledges the crucial part that instructors play in helping students realize and develop their full potential. As a result, teachers should possess extensive knowledge, abilities, and the capacity to interact with all students in an effective manner. They should be able to choose educational resources that accommodate students' various needs and talents while still setting standards that are realistic.

The availability of sufficient human resources is another issue for the successful application of CBC. According to Hipolite's (2019) investigation into the difficulties teachers faced when rolling out CBC in Morogoro Municipality government sponsored secondary schools in Tanzania, these difficulties included managing large class sizes, which made the task challenging for teachers. When examining the problems that teachers faced during the implementation of CBC, Makunja (2016) concluded that insufficiency of instructional materials was a major impediment. Similarly, Kanyonga *et al.*, (2019), conducted a study on the implementation of CBC in Arusha, Tanzania

and concluded that TVET institutions should be properly equipped with the necessary infrastructure for efficient transfer of skills and competencies.

In addition, a study by Mosha (2012) in Tanzania looked at how learning resources are utilized to impart information and skills as part of a CBC. The research underlined that because a CBC places more attention on the individual student than the collective group of learners, the size of classroom populations in many schools was a significant barrier to its successful implementation. The study recommended that more schools and classrooms should be built and be well furnished. More teachers should be trained and recruited. Therefore, it is necessary to invest more resources in order to improve the learning environment training and development of teachers and the provision of learning and teaching materials.

According to Isaboke, Wambiri, and Mweru (2021), pre-primary schools' adoption of CBC in Nairobi is severely hampered by inadequate physical infrastructure, appropriate materials for learning and teaching, large classes, and enough teachers. Ngeno, Mweru, and Mwoma (2021) conducted a study to determine whether the physical infrastructure was available in Kericho County public schools to rollout CBC successfully. According to study findings, head teachers generally agreed that all teachers need to be prepared for effective CBC rollout. The conclusions stressed the need for more financing to assist the building of laboratories in schools. According to Waweru (2018), teachers lacked the necessary preparation to adopt CBC, with 98.8% of them admitting that they were unprepared, especially in relation to the new courses. 95 percent of the teachers also said that creating lesson plans was difficult.

Andiema's (2020) research on teacher capabilities in the assessment of CBC amongst special needs students found that teachers' evaluation and assessment skills are not at par with CBC requirements. Further, the study also revealed that teachers attending to special need learners desired multiple test questions, which compared to other complementary formative assessment methods required under CBC is associated with summative assessment methods. Koskei and Chupchumba (2020) study on Teachers' Competence found that the competence based curriculum was hastily implemented before most teachers were properly trained on its contents and teaching approaches.

The teacher training for pre-primary, grade one, grade two, and grade three was questionable. Few educators attend training courses, which emphasizes the importance of thorough preparation. The Kenyan government hastily implemented CBC in schools with very little done to address crucial issues including insufficient personnel, which prevents its successful implementation. According to Wambua and Waweru (2019)

Public education in Kenya is funded by the Ministry of Education, and parents also contribute financially. Money obtained from both parents and the government needed to be more adequate for running school programs (Buhere, Kaberia & Sisungu, 2014). A study done by Sherlock (2011) on the impact of financial resources on test pass rate revealed that variations in spending may have positively impacted on the practical implementation of CBC. Lack of adequate teaching and learning materials and low-quality textbooks hinder the CBC rollout. Ondimu (2018), established that there were inadequate textbooks. Thus, the need to finance publication of books to avoid delays in supplying public primary schools with enough textbooks. The study noted that sometimes it's challenging to obtain exact books for a specific class, which has hindered the rollout of this curriculum because it frustrates both teachers and learners. Hence, a need for more financial resources.

A research study by Njeru and Itegi (2018) in Tharaka Nithi County on competence based curriculum pointed out that teachers lacked proper preparedness and training in the implementation of CBC. There were inadequate digital resources, lack of virtual support, and inadequacy in handling digital literacy due to inadequate skills. The study recommended that for the purpose of enhancing their educational methods and gaining access to internet resources, teachers require technical resources.

Teachers in Kenya experience numerous difficulties when adopting competence based curriculum, as postulated by a 2019 report by the Kenya Nation Union of Teachers (KNUT, 2019). The information established that most public primary schools lack permanent classrooms, leading to combination of some learners of different grades into one classroom by institutions. Many governments sponsored primary schools, according to the report, lack designated classrooms for PP1 and PP2, so instructional activities are typically carried out outside, frequently in the shade of trees. Also, most

CBC learning areas needs approved text books and other teaching and learning materials. This report by KNUT needs to be verified by a research study, hence the need for the current study.

Implementation of CBC is underway in Kenya. The Kenyan government keep on investing hugely in the education sector, especially in implementing CBC; therefore, any impediments to the successful implementation of CBC need to be acted on swiftly for the learners to benefit optimally from the new curriculum. This study seeks to determine the antecedents of competence based curriculum and its effective implementation, particularly on the provision of physical resources, adequacy of human, human resource competencies and sufficiency of financial resources.

1.2 Statement of the Problem

Typically, each country endeavours to develop a well-prepared younger generation that meets the specific needs of the nation. To achieve this objective, the education system's curriculum undergoes regular revisions to align to dynamic market needs. Consequently, education managers have a responsibility of guaranteeing that the learning resources align with the global demands of learners.

In Kenya, the rollout of CBC began in January 2017 with the aim of nurturing students' talents. However, concerns have been raised by various education stakeholders regarding the effective execution of CBC. It is essential to gather concrete evidence regarding its successful implementation in Kenyan educational institutions. The successful implementation of CBC in classrooms necessitates adequate space, facilities, and equipment, well-trained implementers, a sufficient number of teachers, and adequate funding. Continuous rollout of the CBC without due consideration of its essential requirements may jeopardise the intended objective. Thus, the goal of this study was to explore any potential connections between the requirements for successfully implementing CBC and its actual effectiveness in practice.

1.3 Purpose of the Study

The purpose of the study was to establish the antecedents of competence based curriculum and its effective implementation among public primary schools in Tharaka Nithi County, Kenya

1.4 Objectives of the Study

The objectives of this study were:

- i. To assess the relationship between the adequacy of physical resources and effective implementation of a competence based curriculum in Tharaka Nithi County.
- ii. To determine the relationship between adequacy human resources and effective implementation of competence based curriculum in Tharaka Nithi County.
- iii. To determine the relationship between human resource capabilities and effective implementation of competence based curriculum in Tharaka Nithi County.
- iv. To evaluate the relationship between financial resources and effective implementation of competence based curriculum in Tharaka Nithi County.

1.5 Research Hypotheses

The following research hypotheses were formulated to guide the study. The hypotheses were tested at $\alpha=0.05$ significant level.

- Ho₁: There is no statistically significant relationship between the adequacy of physical resources and the effective implementation of a competence based curriculum in Tharaka Nithi County, Kenya.
- Ho₂: There is no statistically significant relationship between the adequacy of human resources and the effective implementation of a competence based curriculum in Tharaka Nithi County, Kenya.
- Ho₃: There is no statistically significant relationship between the human resource competencies and the effective implementation of the competence based curriculum in Tharaka Nithi County, Kenya.
- Ho₄: There is no statistically significant relationship between the adequacy of financial resources and effective implementation of the competence based curriculum in Tharaka Nithi County, Kenya.

1.6 Significance of the Study

The research findings could be informative for education managers, policymakers, curriculum developers, educational planners, and other stakeholders in the implementation of Competence Based Curriculum. Further, the study conclusions could be valuable in providing guidance to educational managers in their implementation of CBC, who include institutions such as the Kenya Institute of Curriculum Development (KICD) in their review of the CBC. Additionally, the research conclusions could enable education managers to use the information gathered from the survey to sensitize the head teachers and other teachers through in-service and pre-service training on implementing CBC. The study's conclusions could be used by the Quality Assurance and Standards Officers (QASO) to improve how well CBC is evaluated. The outcomes could potentially inform and serve as a foundation for future research.

1.7 Scope of the Study

All public primary schools were the study target, which was conducted in Kenya's Tharaka Nithi County. The study examined the elements that contribute to CBC's successful implementation in public primary schools. The study was also restricted to the participants, who were head teachers, teachers in grades five and six, TSC sub-county directors, sub-county directors of education and was within the confines of the research variables.

1.8 The Study's Assumptions

The following presumptions served as a guide for the study.

- i. All participants were implementing CBC in its entirety.
- ii. Participants in the study were informed about the implementation of CBC and the prerequisites.
- iii. Respondents who were selected to take part in this study did so freely and provided truthful information.

1.9 Limitation of the Study

The research was conducted in public primary schools within Tharaka Nithi County, Kenya. The research encountered a few challenges that did significantly affect the findings such as seeking honest responses from the human respondents, since the study relied on self-reported data from head teachers and teachers. This was overcome by assuring the participants confidentiality during data collection. The study focused on the availability and adequacy of physical resources, human resource, human resource competencies and financial resources, but did not explore other factors that may influence the effective implementation of the competence based curriculum. Tharaka Nithi County is a vast area with unreliable means of transport, therefore, cost and time constrained the study. This was overcome by providing for additional financial resources and allocating more time for data collection.

1.10 Operational Definition of Terms

The following terms have been operationalized as follows in this study

- Antecedent:** Are events, situations or factors that precede a particular outcome. In this study it refers to what was supposed to be satisfied before implementation of CBC particularly the physical resources, human resources, human resource capabilities and financial resources.
- Competence:** The ability to adequately apply knowledge, skills, and attitudes learned in real life. In this study competence refers to the achievements of competencies addressed by CBC framework
- Competence Based Curriculum:** A curriculum encompassing the acquisition and application of skills instead of content and rote memorization. In this study refers to acquisition of core CBC competences.
- Effectiveness Implementation:** It is the ability to produce the desired outcome. In this effective implementation refers to degree to which implementation of CBC achieves the desired outcome of developing key competencies on learners.
- Financial Resources:** The monetary resources which serve as a means of acquiring all required educational resources. In this study it refers to government capitation and any other monies that is available in schools for implementation of competence based curriculum
- Human Resource:** The personnel who make up the workforce of an educational institutions.
- Human Resource Capabilities:** This refers to skills, competencies and abilities of human resource professionals within an organization. In this study human resources refers to teachers skills, competencies and abilities to effectively implement CBC curriculum.
- Physical Resources:** In this study physical resources refers to classrooms, laboratories, computers, music rooms

Public Primary School:

Refers to state-run schools which government approves and regulates curriculum, sources of income and expenditures.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Chapter two delves into the review of theory and empirical studies in relation to the variables used in the study. The literature review made the basis for positive criticism with an aim of identifying the existing research gaps. The chapter is divided into several parts: History of education development management in Kenya, effective implementation of CBC in Government Primary Schools, adequacy of physical resources, human resource, financial resources and human resource competencies on effective implementation of CBC. The conceptual and theoretical framework are discussed in the final two parts.

2.2 Historical Development of Education Management in Kenya

Documents from the past show that Kenyans had access to education as early as 1728. (Ojiambo, 2009). After that, missionaries introduced Western education as they made their presence on the mainland; they started schools to convert Africans to Christianity. Later, the British colonial authority started pressuring the missionaries to expand the school system so that in addition to religion, there would be a technical component to the curriculum. (Ojiambo, 2009). After the First World War, the colonial authority allegedly took a number of steps in regards to African education, according to Achola and Pillai (2000). After creating the Department of Education in 1911, the colonial government started a system of grants-in-aid at this time to support the advancement of education offered by Christian missionaries. To examine the education given in Kenya for all races, the colonial authorities formed the East Africa Protectorate Education Commission in 1919. The Phelps-Stokes Commission was established in 1924 during this time period, according to Sifuna and Otiende (1992). The two commissioners' reports served as the framework on which Kenyan education was built at this time. The information's main goals included enhancing one's effectiveness, advancing agriculture, developing local industries, enhancing health, and training people on managing their affairs.

Several commissions were established to evaluate education at this particular period, such as; A Ten-Year Plan, the Beecher report from 1949, the Phelps-Stokes Commission from 1924, and the Binns Commission from 1952. In addition to the commissions established during this time, the colonial administration established numerous educational committees, councils, and boards in addition to passing three significant education ordinances in 1921, 1931, and 1934 (Bogonko, 1992). Sifuna and Otiende (1992) noted that colonial education policies continued to favor the European population in terms of funding, curricula, and structure even after the 1950s. In addition, fewer African children attended school than their counterparts in Europe and Asia, and their attrition rate was unusually high. Africans had little opportunities for post-primary education, and those who did qualify had to take a lot of exams, which limited their options (Bogonko, 1992). Reviewing the educational reforms made during this time revealed colonial governments' attempts to use education to promote racial progress.

The goal of nationalist education during the struggle for independence was to deliver an education that would meet the requirements of the nation immediately. The Kenyan government based its educational initiatives on this framework (Sifuna & Otiende, 1992). Education reforms and developments, at that time, were also partly driven by political forces. The Republic of Kenya (1965) posted that the two main goals of the educational system should be technical and social.

Giving future human resources the essential knowledge and abilities was the technical goal. Teaching principles that could improve people's lives and preserve communal sensitivities was the social goal. Based on this, Kenya started implementing a number of legal and educational policies that could aid in its development. Sessional Paper Number 10 was the first project the government undertook, completed in 1965. This was a crucial paper for analysing Kenya's immediate needs and goals following independence.

During this specific period, the government undertook the establishment of five major inquiries to thoroughly analyse and evaluate Kenya's educational development and advancement. Among the five inquiries the Koech Commission described what education was presently and what it ought to be. The plan served as the cornerstone for

Kenya's post-independence educational system. The goals of the Ominde Commission were reaffirmed in the Gacathi Report (Republic of Kenya, 1978). It aimed to improve how Kenyan educational objectives were used to mould the country's character and progress. Ominde recommendations spanned around vocational education and were practical and technical.

Presidential Working Party commission was tasked to investigate the viability of creating a second university in Kenya (Republic of Kenya, 1981). It pushed for an equitable distribution of educational resources as well as a practical curriculum with a wide range of employment options. The educational 8-4-4 system was born as a result of it. The Kenyan government and other stakeholders recognized the need to examine and reassess the system because of these shortcomings. The suggestions were to enhance high-quality education (Republic of Kenya, 1999). Based on the feedback received, the commission adjusted the TIQET model to correspond with the objectives of Kenyan education. The concept of TIQET encompassed the principles and content that would define the educational system. It was to be comprehensive because it was supposed to be all-encompassing, accommodating, and ongoing. It had to be blended with its understanding of the goal of education. It concentrated on the effectiveness of teaching, delivery and results (Sifuna, 1990). Despite its expert analysis, assessments, and honesty on the Kenyan education system's challenges, the government never implemented Koech Report. It was thought to be expensive and complicated.

The government published a sessional document No.1 of 2005 and established a task force to realign the education sector with the 2011 new constitution, under the leadership of Professor Douglas Odhiambo (Republic of Kenya, 2012), to coordinate education to suit the needs and ambitions of Kenyans. The taskforce's responsibilities were reviewing the policies, research, training, and education components to make sure they adhered to the constitution, as well as the national curriculum's relevance and responsiveness to the Vision 2030. They also provided advice on a suitable framework for managing education at the institutional, county, and national levels.

KICD (2016) conducted a study on the need assessment for curriculum change and concluded that capabilities that promote development at personal level, self-care, and self-reliance are essential. Honesty, humility, and love were suggested as values to instil. The findings highlighted a number of crucial learning areas, including those that might increase levels of individual economic empowerment and contribute to the growth of the economy as a whole. Critical thinking, communication, teamwork, and creativity were pointed out as essential subjects for 21st-century education. The main goal of Kenya's most recent curriculum revisions is to actively nurture and promote each learner's innate potential. Through a variety of specialized learning tracks and courses that will be made available during senior secondary school, this holistic approach offers a platform for identifying, supporting, and cultivating the many abilities of students.

2.3 Effective Implementation of CBC in Government Primary Schools

The adoption of the CBC in state primary schools marked a significant shift in education, emphasizing a more learner-centered approach. This review delves into various dimensions of the successful implementation of CBC, encompassing curriculum development, teacher training, assessment strategies, and the challenges encountered in this transformative process. There are too many definitions of Competence (Wong, 2008), and according to Seezink and Poell (2010), there needs to be a standard definition of the concept. Rychen and Salganik (2003) observed that Competency is the capacity to effectively meet demanding conditions in a specific situation by mobilizing psychosocial prerequisites, encompassing both cognitive and non-cognitive elements. Competence, according to Tilya and Mafumiko (2010), is the capacity to perform a specific activity to a required standard. It entails a student's capacity to carry out tasks successfully, come up with solutions, and use those solutions in a learning environment or in a job. Competence is therefore seen to be the combined skills needed to handle difficult jobs, and Competence may constitute trainable traits. According to (Kouwenhoven, 2003), the definition of the word "competence" might change depending on the situation.

The definition's applicability depends on; People. Who defines competence, then? What viewpoint is this? The definition's objective, that is, what does it hope to achieve? What kind of organization and what kinds of processes will the description be utilized in is the context? As a result, some limitations define what competence is and is not. As a result, there might be variations in the definition and application of competence in the contexts of business, industry, and education.

Gervais (2016) outlined competence-based curriculum as an approach to education that focuses on outcomes and assesses students' mastery of learning by demonstrating that they possess the know-how, approaches, principles, skills, and manners necessary to achieve the required academic qualification. Patrick (2019), defined CBC as an education tool that seeks to empower students to a level where they can make decisions on their learning by applying various strategies at different situations. According to Levine and Patrick (2019), competencies should be evaluated based on evidence of mastery in contrast to set time thereby being explicit, transferable, and measurable. A CBC is an option to the conventional education model, which places strict time constraints on teachers as they cover information and evaluate students' content understanding.

However, Competence based curriculum programs vary significantly though some common principles and practices characterize CBC programs. Sturgis and Case (2018) argued that CBC is student- centred with an objective of impacting on their mastery of given abilities, knowledge, and values. Competence refers to specific, measurable, transferable learning outcomes that are industry-relevant that enable graduates to accomplish current or upcoming tasks at a required level in a job context (Patrick, 2013). Competencies can be produced by consulting various stakeholders- employers, parents, students, and teachers- and by task analysis.

Gervais (2016) asserted that CBC model lays emphasize on the student mastering the competencies at own pace. Hence, according to Johnstone and Soares (2014), CBC embraces the reality that students from a variety of backgrounds enrol in educational programs, influencing the rate at which they achieve the anticipated outcomes. As a result, CBC programs give students the freedom to select from a variety of learning

opportunities and pursue their own unique learning pathways and paces with the support of their teachers (Pace, 2013). This indicates that rather than focusing on group learning, courses are made to allow pupils to advance at their own pace (Gervais, 2016). In contrast, students in traditional education programs are streamed by grade regardless of individual learning readiness differences among students in the same age group.

Effective curriculum development for CBC is paramount. Nzomo (2017) underscores the importance of a flexible, developmentally appropriate curriculum that nurtures cognitive, social, emotional, and physical competencies. Such a curriculum should encourage critical thinking and problem-solving. Furthermore, Obiero (2018) emphasizes the significance of involving multiple stakeholders, like teachers, parents, and local communities, in the curriculum development process. This inclusive approach ensures that the curriculum aligns with community needs and values, fostering better acceptance and implementation.

A well-prepared teaching force is integral to the prosperous application of CBC. Instructors need to be equipped with knowledge required to effectively deliver the new curricula. Continuous professional development plays a crucial role in keeping teachers updated and confident in their roles Mwangi (2019). Wambui (2020) underscores the necessity for a shift in teacher training, moving from content-based to pedagogy-centered training. Teachers should be trained to facilitate active and inquiry-based learning, moving away from traditional didactic methods.

Effective assessment methods under CBC must be authentic and formative. Kioko (2018) advocates for assessments that evaluate students' competencies rather than their rote memorization of facts. Continuous assessment throughout the learning process is vital to identify areas where students need improvement. Okoth (2021) highlights the importance of alignment between assessment tools and learning outcomes. This alignment should be transparently communicated to students, parents, and teachers to create an understanding and identify areas for improvement. Implementing CBC comes with its share of challenges. Musau (2019) identifies limited resources, inadequate teacher training, and resistance to change as key obstacles.

The lack of necessary teaching materials and overcrowded classrooms can impede the effective delivery of the curriculum. Macharia (2020) discusses the challenge of garnering parental and community understanding and acceptance of CBC. Effective communication and collaboration between schools and communities are crucial for addressing this challenge.

Gervais (2016) contends that ability to make use and transfer the know-how and ability to labour market is proven through CBC. Other than simple comparison with the control group, the proof is reliably and legally an indication of the learner's competence (Gervais, 2016). Thus, a competence-based curriculum frequently describes how several formative evaluations help students learn and master material before a summative test (Gervais, 2016). When they are prepared, students take summative exams, and they have several chances to show what they have learned (Pace, 2013). Then, teachers use summative evaluation to pinpoint learning gaps and guide adjustments to the curricula.

The competence based curriculum identifies appropriate learning resources that students and teachers can access without time or space restrictions. Technology-based teaching and learning aids include things like live lectures, simulation software, and video recording choices (Gervais, 2016). Under the CBC program, learners and teachers work in collaboration to choose from various available learning opportunities and have customized learning curve that suit every student needs. To achieve such a learning environment, access to learning materials is key regardless of time or location constraints. According to Gervais (2016), a complete assessment system is made up of summative assessment, which gauges competency mastery, and informative tests that are aimed at creating customized learning trajectories.

2.4 Adequacy of Physical Resources and Effective Implementation of CBC.

The quality of education is dependent on physical resources which determine students' academic achievements (Yara & Otieno, 2010). According to Ayuba and Gatabazi (2010), inadequate infrastructure and equipment affect curriculum implementation. The absence of workshops and contemporary instructional resources severely hinders the

teaching process, which prevents students from acquiring practical skills as a result of unsatisfactory instruction delivery (Dasman, 2011).

The successful implementation of training and teaching programs is also severely hampered, as Maino (2013) highlights, by the inadequate provision of curriculum resources and outmoded equipment. When teachers use appropriate technology, resources, and tools during lessons, learning is facilitated and students' academic performance is improved. According to Tshabakla and Ncube (2014), the instruction process needs the right tools and infrastructure in order to provide the anticipated educational objectives. Hence, in any educational system, the availability of resources and the physical infrastructure are crucial. This holds true for Kenya's CBC implementation as well. Alajmi (2021) conducted a study in Kuwait on the challenges encountered in implementing the Kuwait National Competency Board curriculum. The study examined the comprehension and application of CBC by teachers in Public Education institutions. The results showed that the training of professionals, usage of iteaching technologies, resources. It was suggested that for a successful deployment, financial resources, instructional technology, and teacher guides be made available

A research work on factors impacting curriculum application for students was conducted in India by Chaudhary (2015), and the results showed the importance of numerous elements. These variables included educators, students, ideologies, and cultural learning, all of which had a significant impact on how well the program was implemented. The study also highlighted the value of governmental and educational management engagement in the provision of necessary physical resources. The National government must allocate physical resources like classrooms, workshops, libraries, labs, and playing grounds facilitate a conducive environment. Additionally, the study underlined how important it was to have top-notch tools and materials in order to successfully implement the program. Consequently, the objective of this study is to determine if Kenyan public primary schools have enough physical resources to rollout the Competence Based Curriculum (CBC) successfully.

Osarenren and Irabor (2012) did a study in Nigerian seeking to understand the sufficiency of manpower and physical resources for skill-based instructional courses in Nigerian institutions of higher. Academic staff and final-year students made up the study's population. The research conclusions were that the learning and teaching of skill-based courses was hampered by insufficient physical and human resources.

The study concluded that citizens, non-governmental groups, and the government should all contribute both human and material resources. Amadi and Ezeugo (2019) also looked at the availability of physical resources and students' academic progress in the Universal Basic Education Scheme in River State, Nigeria. A descriptive survey design was used during the study for this investigation. There were 470 UBE teachers in the study's sample. The study revealed that to promote efficient learning, both teachers and students need certain facilities, such as libraries, labs, well-constructed buildings, sufficiently equipped classrooms, a dependable water supply, bathroom facilities, and a secure atmosphere. It is significant to emphasize that because this study was conducted especially in Nigeria, its conclusions might not be immediately applicable to the situation in Kenya. Thus, it was necessary to carry out a second investigation in the Kenyan setting.

A research study by Acquah, et al. (2017) in Ghana revealed the problems faced in executing CBC teaching programs in teaching institutions. The findings indicated that the implementation of CBC had positively contributed in preparation of highly qualified instructors. However, the research revealed CBC was ineffective in some training institutions due to a lack of infrastructure development. This conclusion was drawn from a training institution in Ghana; thus, it might not be applicable in Kenya's public primary schools. As a result, the current study is necessary to identify the relevant factors needed to execute CBC in Kenya.

Rwanda changed its curriculum from knowledge-based to CBC with the primary purpose of giving school graduates the skills they need to fulfil job-related obligations and training them as capable problem solvers. Inadequate teaching resources and lack of facilities led to differences in the implementation of CBC. Mugabo, *et al* (2021) investigated the relationship between a school's profile and its capacity to execute CBC

and advised the supply of sufficient infrastructure resources. Moreover, Ndayambaje (2018) conducted a comprehensive examination of the impediments encountered during the enactment of CBC across Rwanda. The research, exhibited that inadequate teaching resources were a key factor in hampering CBC enactment in Rwandan primary schools. Consequently, it becomes imperative to conduct a study within the Kenyan context to ascertain whether the availability of physical resources serves as a precursor to the efficient application of CBC in Kenya.

A significant barrier to the efficient application of CBC in Tanzania lack of adequate instructional materials, according to research done by Makunja (2016) in Tanzania with the intention of examining the obstacles faced by educators in doing so. The study strongly suggested that to facilitate the CBC's implementation, the Education Ministry should make sure that practical materials are made accessible that match its specifications. The study concluded that providing instructional resources and sufficient classrooms is crucial for implementing CBC effectively. Like this, Kanyonga *et al.*, (2019) carried out a thorough analysis of the adoption of CBC in TVET in Arusha, Tanzania with an intention of determining wheather trainers could properly implement training based on competency curriculum. The study made clear how important it is to properly set up and supply TVET institutions with the tools and infrastructure required to promote the transfer of knowledge and abilities. It stressed how important teacher and instructor preparation is to the success of CBC integration. While the examples from Tanzania cited above concentrated on secondary education and TVET, it is crucial to carry out a research in Kenya to investingate any underlying variables that may be hindering the roll out of CBC in elementary schools.

A research in Kenya by Isaboke, Wambiri, and Mweru (2021) scanned the difficulties of implementing a Competence based curriculum in an urban setting, with an emphasis on the difficulties faced by teachers in government sponsored pre schools in Nairobi City County. All 225 county's regular pre- schools were included in the study. Based on the study's conclusions, insufficiency of necessary physical resources and instructional materials greatly hinders the enactment of CBC. The investigation suggested that the Nairobi City County leadership give priority to building more classrooms and providing a wealth of instructional materials to satisfactorily meet the

student needs. The latter study was in an urban setting; hence the findings may not apply in the rural location the current research is focusing on; furthermore, the study focused on public pre-primary schools, and the recent research focused on public primary schools.

Ngeno, *et al.*, (2021) performed study with the goal of evaluating the physical infrastructure required for enactment of the (CBC) in Kericho by schools sponsored by the county government. The study's main goal was to investigate any connections that might exist between the availability of physical resources and the efficiency with which CBC was carried out. Six CSOs, sixty-one head teachers, and sixty-one teachers of first-graders made up the research's sample. Based on a computed p-value of 0.000 and a correlation coefficient of 0.494, the study's findings indicated that head teachers had a positive attitude towards CBC. Teachers' correlation coefficient was 0.369, and their estimated p-value was 0.005, both of which were found to be statistically significant within the parameters of the study, just like that of the students. The study project concluded that more financing was needed to enable schools to construct labs. Nturibi (2015) carried out a similar study in Ruiru, Kenya, to investigate the impact of school infrastructure on academic achievement. The study's focus group included 181 children from 7 public primary schools, and seven school heads, fourteen teachers. The study findings were that schools need adequately equipped libraries necessitating improvements.

Despite having large student enrolments, the results showed that many schools in the area struggled with problems like poor laboratory, insufficient of classroom resources. Wambua and Waweru (2019) recommended to the national government provide the required resources to schools to protect vulnerable students from the agony of repeated underachievement, exacerbated by a lack of resources and poor learning conditions. Teachers need technical help and access to the internet and other resources to improve their teaching practices. It is the responsibility of the government and school administration to guarantee that educational institutions have access to sufficient materials. As a result, the schools will be able to provide their pupils with the necessary tools and support both the teachers and the students. Akinsanye (2010) argues that educational materials are essential because the availability and efficient use of physical

resources that facilitate successful teaching and learning are critical to any school's success.

2.5 Human Resource Adequacy and Effective Implementation of CBC

Education institutions around the world frequently struggle with inadequate staff members (ILO, 2008). Any country that wants to achieve or sustain a high-quality educational system ought to consider human resource shortages seriously. The majority of the workforce in education is made up of teachers. They instruct students, uphold discipline, and serve as role models for moral principles and responsible social behaviour. Less effective education, bigger class sizes, or both may result from a teacher shortage. Thus, it is important that practitioners, legislators, and education managers take teacher shortages seriously and work to mitigate this issue because a lack of qualified teachers endangers kids' ability to learn (Ladd & Sorensen, 2017). Ladd and Sorensen (2018) posit that uncertainties amongst the teaching labour have a detrimental effect on student's performance and thereby undermining teaching efficiency and quality. Lowly motivated teaching workforce results to high human resource turnover with significant economic costs. Insufficient teachers create challenging environment to create a reputation for the teaching career and make it professional, exacerbating the shortage.

Research on the effects of large class sizes on the enactment of CBC in practise in Zimbabwe was conducted by Wadesango et al. (2016). The study's objective was to ascertain how Zimbabwe's primary schools' use of CBC was impacted by large class numbers. The results of this study, which included 20 instructors and 5 head teachers as respondents, indicated that the 1:40 teacher-to-pupil ratio at the time was high. The people who responded suggested reducing it down to as little as 1:30. They argued that accommodating individual differences is not possible in a big class size. marking, giving out sufficient study materials, general monitoring, and maintaining order in the classroom. Examining the relationship between adequate human resources and CBC implementation in Kenya is the primary objective of this study. The research goal was to investigate the association between having enough human resources and CBC implementation in Kenya.

Hipolite (2019) carried out a research study in Tanzania to examine impediments into enactment CBC. The latter study used a case study and qualitative research methods to collect data from thirty-six respondents through observation, in-person interviews and focus groups. According to the results teachers were aware of the difficulties associated with CBC, which included insufficient resources, low student preparedness to adopt CBC, class congestion, and blur areas regarding CBC. In overcoming CBC implementation obstacles, the study found that learning inclined towards problem solving, self-learning subject clubs, and classroom-based engagements were effective approaches. Teachers proposed the need for resource centres, pedagogical skills development, and teacher motivation programs. Since teachers might utilize a variety of instructional innovations to solve the issue, the study came to the conclusion that there was an average level of success in the tactics employed to address the CBC issues. The study suggested that as teachers are the main CBC implementers, they exercise creativity in finding innovative ways to address CBC's issues. This is because the teaching profession demands potential and new ideas. Additionally, the research suggested that before giving teachers any directives, service training should be provided to all subject teachers without preference for other subjects, and teachers should be included in any curriculum reviews so that they can be informed of the reality and share their teaching approaches as required by the CBC. The research also showed that teachers encountered numerous difficulties, such as managing large class sizes, which would have hampered better CBC implementation.

Wambua and Waweru (2019), did research examining the challenges that hinder the effective application of CBC in Kenya using a descriptive survey approach, amongst eighty-eight schools, 367 head teachers and instructors, and 3 education officers, totalling 453 respondents. The findings shed light on the hasty implementation of CBC by the government, which overlooked critical challenges such as understaffing in schools. The research suggested that CBC was hurriedly rolled-out in schools without proper arrangements sought out challenges like understaffing in public primary schools. Similarly, Sitenei (2020) did research to determine the influence of school related factors on CBC roll out in the Kibra sub-county of Kenya. The study employed an exploratory research design and a sample of 56 participants. Based on the study's findings, it was observed that the time dedicated to CBC lessons should be increased to

accommodate the larger class sizes in government sponsored primary schools in Kibra. The overcrowding issue in these schools negatively impacted the successful implementation of CBC. Specifically, the study highlighted a concerning teacher-pupil ratio of 1:180, which greatly hindered the optimal performance of CBC. The research findings indicated the existence of obstacles hindering the effective implementation of the Competence Based Curriculum (CBC) in Kibra, an urban slum area. Consequently, it became imperative to investigate the correlation between the factors influencing effective CBC implementation in urban settings and its implementation in rural areas.

In Laikipia East sub-county of Kenya, Marion (2020) performed a study to examine the difficulties teachers faced when adopting CBC in lower elementary schools. A descriptive survey methodology was applied for the investigation. The research noted that there were many challenges affecting the effective implementation of CBC such as large class size which was a severe challenge that affected the performance of CBC in public primary schools. The findings established that implementing CBC in lower public primary schools faces many challenges, therefore, needs to be more effectively implemented. However, the results were from lower public primary schools; thus, they cannot be generalized to upper public primary schools. As a result, it is essential to undertake a study that examines the relationship between the variables impacting fruitful CBC implementation in upper public elementary schools and the effectiveness of CBC implementation itself.

Schools facing a teacher shortage, according to a study by Joyce et al. (2014), employ coping mechanisms like hiring temporary teachers, enlisting the help of inexperienced people like former students, overloading current teachers, combining classes by grade, and temporarily congesting classrooms. Implementing the competence based curriculum rolled out in 2017 significantly increase teacher demand. To meet future teacher demand, the government can only rely on hiring teachers permanently to avoid high spending. As a result, the government is compelled to take into account low-cost temporary teacher recruitment techniques like contract teaching, part-time employment, and teacher internships. Thankfully, Kenya possesses a sufficient number of jobless, qualified instructors who are willing to accept temporary teaching positions (Nyaundi, 2019). These teachers are likely to face job insecurity and earn far less than

their permanent counterparts, therefore questions regarding equity and quality raised by these temporary engagements. The Teachers Service Commission (2019) has identified several factors that contribute to teacher shortages and deployment imbalances in Kenya, including financial limitations, security concerns in some areas, the desire of teachers to work near their families, and station preferences. The objective of this study is to explore the correlation between the adequacy of human resources and the effective implementation of the CBC in Kenya.

2.6 Human Resource Competencies and Effective Implementation of CBC

CBC can help enhance students' academic achievement (Waddel, 2006). However, this can only be achieved with competent human capital, the implementers of the CBC. Human resources need to be trained to be knowledgeable whenever there is a curriculum change. The capability of human resources to conduct teaching and learning activities in an ethical and efficient manner determines the efficacy and efficiency of CBC. For the successful implementation of CBC, qualified persons with sufficient and suitable knowledge and skills are essential (Mosha, 2012). In order to adapt curriculum approaches, human resources must be given the skills they require to manage new teaching paradigms (Woods, 2008). In order to adopt CBC, alternative evaluation that align with the introduced paradigm are needed. According to Woods (2008), all teachers need to learn about and be prepared with new alternative techniques to evaluation in order to execute curriculum change. The transformation from a curriculum centered on content to one centered on competencies calls for a change in the mind-set and working style of teachers. They are compelled to consider the entire authentic task that capable professionals carry out from a holistic perspective. According to Sudsomboon (2010), the teachers' ability to transition from being knowledge transmitters to coaches and instructional designers is crucial to the success of CBC implementation. Teachers who are qualified, experienced, and familiar with the competence based curriculum are required by CBC.

For curriculum implementation to be successful, teacher capacity is crucial. Education. Ries, Cabrerab, and González-Carriedo (2016) conducted a comparison of the duration, curriculum, and induction process as the three primary determinants of teacher training models for general secondary school teachers. The research was conducted in Europe,

Spain, and Texas, USA. Data for the study were gathered using a correlational research design. The results showed that teachers could analyze, consider, and solve a problem in an educational setting after completing the training. Predictors of teacher training models were the main focus of the study, especially in general secondary education. This study was conducted in special needs education which prompts the interrogation of Competence based curriculum's needs for the teachers in Kenya.

Noguera and McCluskey (2016) conducted a comparative study between the professional preparedness of eleven secondary teachers in Spain and Australia. Data collection used a correlation design. The majority of the teachers, according to the results, were not familiar with effective methods for imparting newly acquired knowledge to their students. While the current study examined antecedents for the implementation of CBC in primary schools, the previously reported study concentrated on teachers' readiness for regular learners. It implies that the prior preparation of teachers for implementation of curriculum is a crucial component for its effectiveness.

A study on the Teachers Professional Development and School Improvement Program in Sri Lanka conducted by Kasturiarachchi (2019) observed that teacher initiatives were developed in school categories with input from educational stakeholders. The research used a variety of qualitative techniques. The primary data collection methods were paper surveys and interviews. The study purposefully selected to conduct a thematic analysis in order to gather feedback from members of the School Planning Committee. Results indicated that schools' organizational structures were insufficient to meet the professional demands of teachers. It went on to say that the majority of teachers lacked the readiness to abandon their traditional methods of carrying out their jobs.

Al-Awidi and Aldhafeeri (2017) carried out a study in India to look at teachers' preparedness to use digital curricula in Kuwaiti schools. In order to ascertain the degree of preparation, a random sample of 532 teachers completed an online survey as part of the study's mixed-method research methodology. Additionally, a subsample of the participants (n = 21) underwent semi-structured interviews to investigate the factors influencing their preparedness. A technology readiness survey was created and put into use by the researchers in two domains: pedagogy and technical. According to the study,

teachers are only somewhat prepared to implement the digital curriculum in terms of both their pedagogical and technical skills. According to the study, teachers' inability to use digital tools prevented them from putting the curriculum into practice. The study suggested that teachers receive in-service training on the use of technology in the classroom based on its findings. Teachers must be prepared with computer knowledge and skills because the results from Indian schools show that they may not be able to implement some aspects of the curriculum effectively when they lack technological skills.

Further, research on the challenges of establishing CBC in Kuwait was undertaken by Alajmi in 2021. The study investigated how well primary school teachers in Kuwait understood and used the competence based curriculum. 317 instructors and 94 education supervisors were the sample target for the study, which used a descriptive-analytical methodology. The study revealed areas for improvement in specialised development and teaching, the assessment process, the use of instructional technology, and teacher guides. The study suggested that there was a need for professional development and training for supervisors and teachers on implementing CBC, standard based assessment, and instructional technology. This study was conducted in the Middle East, Kuwait. The findings may not be applicable in the Kenyan situation, thus a need to carry out the current research.

Ambei, Kum, and Ambei (2020) conducted a research study in Cameroon, employing a descriptive analytic research approach, to evaluate the implementation of CBC. Their findings indicated that most teachers still have limited understanding of the CBC and struggle to effectively utilize available resources. Effective implementation remains a significant problem, even for those with solid knowledge of the CBC, due to a lack of resources and the requirement for a thorough comprehension of how to use them. According to the study, teachers need practical CBC implementation with a need for practical CBC implementation. This study was conducted in Cameroon, appraising teacher perspective on using resources in implementing CBC. The primary focus of this research is to examine the correlation between factors influencing the successful implementation of CBC and the actual effectiveness of CBC implementation in Kenya.

The implementation of the competence-based curriculum by history teachers in a few selected secondary schools in Lusaka was the subject of a research study carried out by Kabombwe and Mulenga (2019) in Zambia. The study targeted schools specifically from the 10 zones of Lusaka using a mixed methods strategy. For this investigation, a total of 99 people were included in the sample. Study results showed that 67% of history teachers needed help understanding CBC concept. More so, due to lack of pre-requisite knowledge and abilities, history teachers were found not to apply CBC. To ensure a comprehensive understanding and effective implementation of the CBC, the study suggests that the Ministry of General Education (MoGE) should enhance in-service training and continuing professional development sessions for schools and educational zones. This will facilitate the acquisition of necessary knowledge and skills among educators, enabling them to successfully implement the curriculum. This study was conducted in Lusaka, targeting secondary school history teachers. The current study will focus on Kenyan public primary schools.

A study conducted by Hwande and Mpofo (2017) in Bulawayo, Zimbabwe, investigated the readiness of primary schools to implement the grade three Competence Based Curriculum (CBC). The findings revealed a mismatch between the teacher development training provided and the actual needs of the teachers. Furthermore, some facilitators lacked proficiency in the requirements of the new curriculum, and there was a notable absence of textbooks and internet access, despite the curriculum's emphasis on internet research among teachers. The study was conducted in Zimbabwe, targeting grade three pupils.

To identify the trainers who could successfully implement the Competence Based Education Training (CBET) curriculum, Kanyonga, Mtana, and Wendt conducted a research study in 2019 that looked at the implementation of competence-based education in Tanzania's Arusha technical institutions. The study's conclusions made clear how crucial it is to properly set up and supply TVET institutions with the tools and infrastructure they need to efficiently transfer knowledge and abilities. Additionally, it listed Tanzania's main problems, such as the lack of adequate physical and human resources for implementation.

The study stressed the need of teacher and instructor preparation for guaranteeing the competence based curriculum's effective implementation. The current research focused on public primary schools in Kenya.

Komba and Mwandangi (2015) did a study in Tanzania focusing on the CBC in secondary schools. From 13 secondary schools in Tanzania's Mbeya region, 186 teachers were randomly chosen for the study. The study's conclusions showed that most (86%) of the participating teachers lacked a thorough comprehension of the competence-based curriculum. However, most – at 78%- of the lesson plans that were observed did not resemble CBC education model and student's participation in class was generally poor. Finally, less than 50% of the classroom sessions that were observed featured teachers using formative student assessments. Implementing a CBC in the chosen schools looked ineffective considering these findings. In-service teachers need to receive regular training to provide them with the most recent teaching techniques needed to adapt to changes made to the school curricula. The two cited studies from Tanzania focused on training institutions and secondary schools; their result may apply to something other than the Kenyan public primary schools.

Kafyulilo (2017) did a study to investigate the use of competence based teaching strategies in Tanzanian classrooms. The study included 78 prospective teachers from Morogoro teacher training colleges as its sample size. The findings showed that pre-service teachers believed they had a strong awareness of and capacity for employing competence-based teaching strategies. However, it was noted during interviews that individuals had trouble articulating some competence-based concepts. Thus, it was determined that competence teaching strategies needed to be implemented in Tanzanian schools more effectively. Also, there is an importance of enhancing CBC awareness among the teachers and head of schools.

Waweru (2018) studied how teacher preparation affected the adoption of CBC in Nyandarua North Sub-County public primary schools. With 119 participants as the sample size and a descriptive research methodology the findings of the study deduced that teachers needed to prepare to implement the CBC. However, a startling 98.8% of the teachers stated that they needed more training to apply the CBC successfully,

especially in the new courses. Additionally, 95% of the teachers admitted that the lengthy time needed for each individual plan made it impossible to create lesson plans for all their students. The study also showed that more than 50% of the teachers asked for assistance in incorporating imagination and creativity into their lesson plans and in creating evaluation rubrics to gauge how well their students were able to do activities.

In addition, a research study by Kimosop (2019) concentrated on evaluating teacher readiness and competence. The study focused on a few public pre-school facilities in Kenya's Baringo North Sub County. The type of study methodology used was descriptive. The respondents for the survey involved sub-county officers in charge of ECDE, head teachers, and pre-school teachers. The research intended to establish if Kenyan teachers were prepared to administer the early childhood education development curriculum successfully. The study findings established that most pre-school teachers in the sub county needed to be better prepared to implement the curriculum. Teachers must be present when the KICD and MOE prepare the curriculum since they are the key implementers.

In accordance with Jess, Carse, and Keay (2016), teachers are with the aid of their pupils and other interested persons, in charge of translating the curriculum. It is the teacher's duty to carry out the curriculum. Instead of just implementing the material as is, the teacher divides it up into manageable parts. What comes to the teacher is different from the curriculum plan, but the syllabus has to be broken down to get the scheme of work, the units of a project, and the lesson plan, which is used daily in teaching. An effective teacher teaches to achieve the desired objectives. An effective teacher gives all it takes and strives towards the achievement of that stated objective. In conclusion, there was an established need to train teachers to meet CBC objectives.

2.7 Adequacy of Financial Resources and Effective Implementation of CBC

The World Bank (2011) lists education as one of the best strategies for eliminating inequality and poverty. The improvement of a nation's competitiveness in the global economy depends equally on education. Therefore, ensuring that everyone has access to high-quality education is essential for a country's economic and social growth, especially for the poor and rural people. Black, Jacobson, and Melaville (2011) argue

that financial resources are the most crucial element in driving the broader vision of a school. Governments spend billions of dollars annually on education because the economic theory considers it as a crucial input to the production function. However, school funding has continued to be a contentious topic of discussion for many years. As a result, taxpayers wish to prevent more of their money from going toward education spending since they often think that schools receive appropriate financing. On the other hand, administrators at schools often assert that there is not enough money available to provide essential school programs.

In a study conducted by Acquah, Frimpongo, and Kwame (2017) in Ghana, it was found that the obstacles facing implementing competence based curriculum training programs (CBT) in training institutions was due to inadequate funding. The study findings intimated that despite realizing positive outcomes, insufficient financial resources can hinder productive CBC roll out. Thus, this research needs to evaluate the connection between the financial resources adequacy and the successful implementation of CBC.

Competence based education model stresses on individual student than the group of learners as a whole, class sizes in the majority of the institutions posed a substantial difficulty to its implementation. Research conducted by Mosha (2012) in Tanzania to explore the learning resources used to impart knowledge and skills in a competence based curriculum. The study recommended that more schools and classrooms should be built and be well furnished. More teachers should be trained and recruited. This requires investing more money in improving the teaching and learning environment, teacher training and development, and supplying textbooks and other teaching and learning inputs. The research being done in Tanzania the conclusions may have yet to be generalized in Kenya. As a result, a survey is required in Kenya to determine the association between factors that contribute to good CBC implementation and those that do not.

Amunga, Were, and Ashioya (2020) did a study in Kenya established the CBC activities that require parental contribution and the challenges they encounter in implementing CBC. The study employed an exploratory research design and 86 respondents. Thus, the study findings indicated that teachers needed more time to prepare for lessons and

handle large class sizes. The study recommended increased funding from the government for building classrooms and employing more teachers. Inadequate learning and teaching resources as well as poor quality textbooks are obstacles to the CBC's implementation in the Nairobi City County's Dagoretti North sub-county, as posted by Ondimu's (2018) study on teachers' readiness for adopting CBC in private pre-primary schools. The research design for the study was a descriptive survey. Study results indicated that the preparation and publication of books had not been smooth, and it is sometimes difficult to obtain exact books for a specific class, which has hindered the implementation of this curriculum because it frustrates both parents and teachers who require these books for their children and learners. Similar findings were reported in a study by Amunga, Were, and Ashioga (2020). The study found inadequate learning and teaching resources, which need to be improved in several schools, posing a threat to the competence based curriculum's adoption.

Furthermore, Kahenda and Kiplagat (2019) observed that this obstacle has pushed teachers and students to go into overdrive, requiring them to be imaginative and ingenious enough to create resources using locally accessible items. Even while being creative and improvising with resources is beneficial, learners must be capable of interacting with natural resources to gain the needed competencies. This scenario may have been caused by inadequacy of financial resources, highlighting the need to investigate the connection between financial resource adequacy and the effective rollout of CBC in Kenya.

2.8 Theoretical Framework

The proceeding section is dedicated towards the description of the two theories that guided the study: Individualized Instructional Theory and System Theory of Management.

2.8.1 Individualized Instructional Theory

Fred Keller Gilmour Sharman (1968) advanced the individualized instructional theory. This theory recognizes that all students cannot learn all skills equally. This happens because of differences in students' characteristics. Diversity issues such as culture, language, learning style, and personality affects students' learning and achievement.

Individualized Instructional Theory was tailored to the implementation of competence based curriculum to conceptualize issues of how learners achieve competencies in varied ways. Individualized instruction considers individual differences and needs of students in the teaching process. It offers instructional approaches appropriate to the differences of students to enable them to acquire the required competencies. Individualized instruction is the effort on the part of a school to organize the learning environment to consider individual student characteristics and needs to make use of flexible instructional practices (Keefe & Jenkins, 2002). Therefore, individualized instruction is a system where teaching and learning activities are organized to consider the individual interests and needs as well as the learning speed and capabilities of the learner. According to Individualized Instruction Theory, individualized instruction represents comprehensive attempts to improve learning by tailoring instruction to these individual characteristics. It assumes that students differ in aptitude, learning rate, culture, motivation, and other variables.

The indispensable catalyst in the individualized instructional environment is the teacher. Individualized instruction requires teachers to give up traditional educator roles such as discipline providers and information distributors in teaching and learning. Teachers must act as a guide to facilitators of learning, a mentor, a friend, or a consultant in individualized instruction. In this context, teachers are essential in planning, implementing, and evaluating teaching and learning activities in the educational environment where individualized instruction is used. Teachers carry on various functions such as scheduling lessons, motivating students to learn, assigning tasks, and evaluating performance tasks.

To effectively implement individualized instruction, teachers should understand that language, culture, and family background impact students' academic and social behaviour, attitudes, values, and interests. In this context, teachers must possess the competencies to teach learners who have these diversities. Teachers' perceptions of individualized instruction contribute to teaching, motivating, and engaging their students. Therefore, determining teacher efficacy perceptions about individualized instruction is a marker of successful teaching applications.

The competence based curriculum is pegged on the know-how of job market skills achieved through classroom learning and teaching approaches. In CBC, teachers and students collaboratively choose from various existing learning alternatives and invent alternative customized learning curves that resonate with the student needs. Access to pertinent learning materials is guaranteed without period or surroundings constraints to support such individualized learning pathways. Thus, need for adequate resources.

Individualized Instructional theory applies in the enactment of competence based curriculum since education managers need to consider instructional strategies that accommodate the diverse characteristics of students. This diversity influences instructional approaches and techniques. Keefe and Jenkins (2002) argue that teachers are required to possess competencies for effective implementation of CBC related to planning, implementing, evaluating instruction, selecting appropriate methods and techniques, and monitoring and evaluating students' progress in an individualized instructional environment.

2.8.2 Systems Theory of Management

The Systems Theory of Management was developed by a German scientist named Ludwig von Bertalanffy in 1968. The theory is a conceptual framework founded on the principle that it is better to understand a system's constituent parts in the context of their interactions with one another and other approaches than it is to do so in isolation. This theory argues that a proper balance must be maintained to achieve homeostasis. For that to be completed, an appropriate feedback channel and an adaption process must be in place. System Theory recognizes that organizations have multiple components that must work harmoniously for the more extensive system to function optimally. The organization's success, therefore, depends on synergy; the same applies to educational intuitions, more so in implementing a competence based curriculum. As per the System Theory of Management, education managers should evaluate patterns and activities within the educational institutions to determine the best management approach to undertake. Also, education managers need to work interdependently, interact, and collaborate on a program to ensure success. Systems Theory of Management asserts that a dysfunctional of one component of a system needs a full review of the entire system and not looking the one aspect in isolation.

The systems theory of Management is applicable in implementing competence-based curriculum, as it encourages education managers and teachers to use methods that recognize learners' surroundings as impelling factors in their acquisition of competencies. Also, understanding concepts between teachers and students can differ, resulting in a breakdown in communication. Therefore, teaching and learning would be improved by having an open line of communication between a teacher and a student as well as a reliable feedback mechanism. Also, school managers must find a solid match between the environmental requirements and the abilities of their learners. The Systems Theory of Management theorists encourages a holistic approach and understanding of the entire system rather than isolating individual components. In this study The Systems Theory of Management captures the inputs to the process of implementing competence based curriculum which includes: physical resources; human resource; human resource capabilities; and financial resources which work interdependently to the effective implementation of competence based curriculum.

2.9 Conceptual Framework

A conceptual framework helped the researcher to conceptualize the study's variables and a general framework for data analysis.

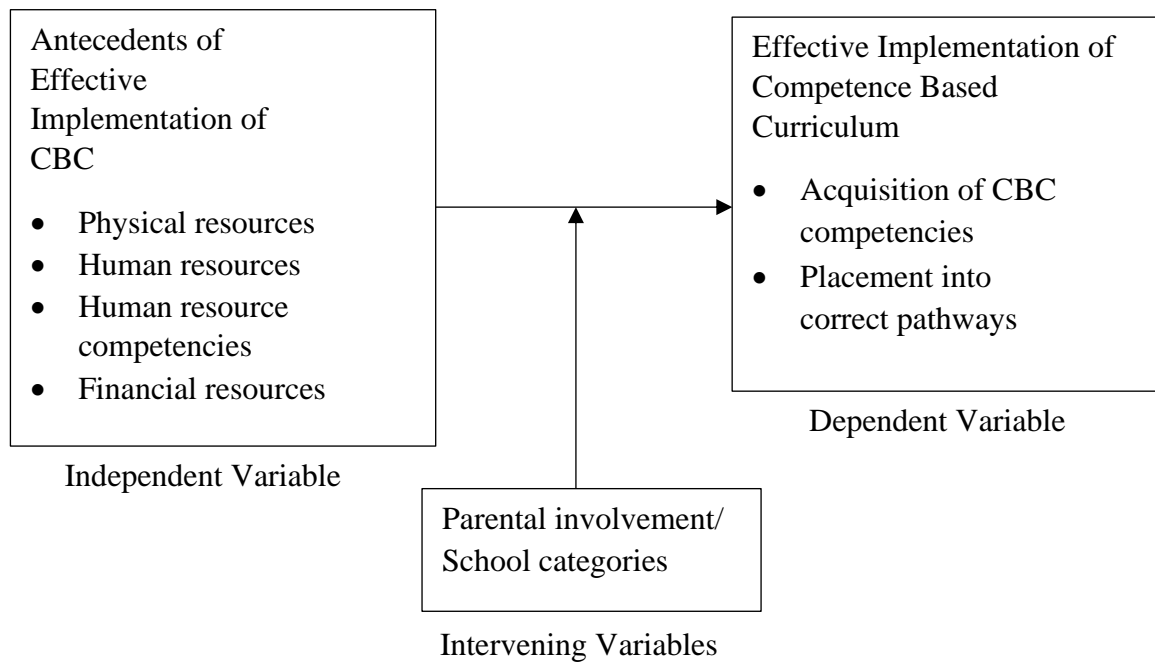


Figure 1: Conceptual Framework showing the Relationship between the Variables of study.

Figure 1 illustrates how the study was conceptualized showing the dependent variables, independent variables and the intervening variables. The indicators of the prerequisites for the implementation of CBC include adequate physical resources, adequate human resources, human resources capabilities and adequate financial resources which were anticipated to have relationship with effective implementation of competence based curriculum. For instance, the adequacy of physical resources in a learning institution has a relationship with how learners acquire CBC competencies. This relationship may be affected by how the schools are able to purchase these resources or how the parents are supportive in ensuring that these resources are available in schools. The intervening variables for the study were parental involvement and the school categories because they could explain why a particular cause leads to a specific effect in the relationship between the independent and dependent variables.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

Chapter three details the research methodology. The chapter discusses the research design, study site, and the population of the study. Additionally, the section addresses the procedure for sampling and the size of the sample size used in the study. It further presents the research instruments, along with discussions on study reliability, validity, the procedure for data collection, and the data analysis steps. The section concludes by highlighting research ethics put into considerations considered throughout the research process. Chapter three details the research methodology. The chapter discusses the research design, study site, and the population of the study. Additionally, the section addresses the procedure for sampling and the size of the sample size used in the study. It further presents the research instruments, along with discussions on study reliability, validity, the procedure for data collection, and the data analysis steps. The section concludes by highlighting research ethics put into considerations considered throughout the research process.

3.2 Research Design

A descriptive and correlational survey research design was used for this investigation. Kothari (2008) argues that descriptive survey design encompasses surveys and fact-finding explorations aimed at explaining the present scenario. Its fundamental task is to define the relationship between study variables. Kombo and Tromp (2006), contends that a descriptive survey allows a researcher to study an occurrence not qualifying for manipulating variables that are independent. A descriptive survey design was chosen because the researcher didn't intend to manipulate the variables. According to Creswell (2012), a correlational study design measures two or more pertinent variables in their naturally occurring state to establish a relationship among the study variables. Therefore, correlational research design assisted the author in measuring the connection between the study variables.

3.3 Study Location

The research was done in Tharaka Nithi County since the county has varied categories of public primary schools situated in well-endowed zones, urban centres, rural set up and arid and semi-arid areas presenting a good representation of Kenyan public primary schools. Tharaka Nithi County is situated approximately 172 km northeast of Nairobi, Kenya. It covers an area of 2609 km² with a population of 393,177 people as of the 2019 census report by the Kenya National Bureau of Statistics (KEBS). Tharaka Nithi County Borders Embu County to its south, Kitui County to its east, Meru County to its north, and Mount Kenya forest to its west. The study was based on Tharaka Nithi county's five sub-counties: Maara, Meru South, Igamba Ng'ombe, Tharaka South, and Tharaka North

3.4 The Study Population

Sekaran and Bougie (2016), defined a population as the whole number of respondents that a researcher is interested in looking at. 4394 respondents, including 434 head teachers, 3950 teachers across all public primary schools in Tharaka Nithi County, 5 TSC Sub-County Directors, and 5 Sub-County Directors of Education, made up the target population that served as the study's units of analysis. There are 434 public primary schools in Tharaka Nithi County, according to the County Director of Education (CDE) office of the Ministry of Education (MoE).

Table 1: Target Populations

Sub county	No. of schools	Head Teachers	Teachers	SCDE	TSC-SCD	Total
Meru south	84	84	783	1	1	869
Maara	108	108	1010	1	1	1120
Igamba'ngombe	68	68	587	1	1	657
Tharaka south	112	112	999	1	1	1113
Tharaka north	62	62	571	1	1	635
Total	434	434	3950	5	5	4394

Source: Tharaka Nithi County Director of Education Office

3.5 Sampling Procedures and Sample Size

According to Bryman (2012) a sample is a part of the population which is used as a representative of the entire population.

Therefore, sampling is construed as a research approach that is used to determine those among the population who will take part in the survey (Maree, 2016). According to Mugenda & Mugenda (2013), a sample size of 10%–30% is a good representation of the target population and sufficient to draw generalizations when a research population is smaller than 10,000. Furthermore, Leedy and Ormond (2016) claim that a sample size of 10% is sufficient for a population of more than 1500 people. This study employed 25% of the total number of schools in Tharaka Nithi County. A cluster sampling technique was employed to sample 25% of primary schools from each sub-county. All head teachers from the sampled schools were chosen to take part in the survey. Proportionate sampling technique was used to select one grade five teacher and one grade six teachers from each of the sampled schools to participate in the study. Grade five and six teachers were targeted because at that level teachers have understood the concept of CBC better. Three TSC sub counties directors and three sub-counties directors of education were purposively selected to participate in this study. Therefore, the study had a sample size of 333 respondents comprising 109 head teachers, 218 teachers, three TSC sub-county directors, and three sub-county directors of education. The sampling summary is shown in Table 2.

Table 2: Sample Frame.

Sub-county	No of Schools	No of Head teachers	No of teachers	No of SCDE	No of TSC sub-county directors
Meru South	21	21	42	1	1
Maara	27	27	54	1	
Igamba Ng'ombe	17	17	34	-	1
Tharaka South	28	28	56	1	
Tharaka North	16	16	32	-	1
Total	109	109	218	3	3

Source: Researcher

3.6 Research Instruments

The study used two research instruments: a questionnaire and an interview schedule.

3.6.1 Questionnaire

Data from the study were both primary and secondary. A structured questionnaire was used to collect preliminary data; it was composed of pre-written items to which respondents were asked to provide answers from a limited set of options. There were both open and closed questions. The degrees of agreement and disagreement were gauged using Likert scale measurements. Mugenda and Mugenda (2014) suggest that a Likert scale is valuable in converting qualitative responses into quantitative values. Five sections of the questionnaire were separated according to the study's constructs. Demographic data were supplied in Section A. Effective implementation of CBC in primary schools are presented in section B. Information on the availability and adequacy of physical resources for successfully implementing CBC was provided in Section C. Section D addressed the availability and adequacy of human resources for implementing CBC effectively. Section E entailed information on teacher competencies for implementing CBC effectively and Section F gave information on the availability of financial resources for implementing CBC, Secondary data sources came from government publications, published reports by the MoE, school websites, and journals.

3.6.2 Interview Schedule

The Sub Counties directors of Education and the Teachers Service Commission sub county directors were interviewed to obtain important information. The interview schedule sought information on each of the study objectives. This gave the researcher the opportunity to understand the current state of the prerequisites for adopting a competence based curriculum and how current government policies have supported its adoption in public primary schools in Tharaka Nithi County.

3.6.3 Piloting

Prior to collecting data, research equipment are first tested in the field as part of the piloting process. According to Creswell (2012), a pilot test of an instrument enables the researcher to make changes depending on participant input after they have completed it. Piloting was undertaken in the neighbouring Embu County, which has similar characteristics to Tharaka Nithi County.

Eleven schools were randomly selected to participate in the pilot study representing 10% of the selected schools for the study. Mugenda and Mugenda (2013) pointed out that at least 10% of the sample size is acceptable for piloting research testing. Therefore, eleven head teachers and twenty-two teachers were involved in pilot test.

3.7 Validity

Validity is the extent to which findings from data analysis accurately reflect the phenomenon being researched (Eric, 2014). According to Mugenda and Mugenda (2013), a survey tool is valid if it is relevant and appropriate. The validity of the research instruments was ensured by cross-checking the research objectives with the corresponding items. Content validity was achieved through the supervisor's review and expert judgment in the department of education at Chuka University and Tharaka University. Upon the experts' recommendation, the researcher made the necessary changes to improve the validity of the instruments. For face validity, the research instruments were divided into several sections to ensure that each section assesses information for a specific objective and that the same is closely tied to the conceptual framework for this study.

3.8 Reliability

According to Orodho (2009), reliability is the consistency with which an instrument consistently produces the same results. According to Saunders (2007), a reliability test shows if the data collection procedure and analysis gave the same results in different cases or if other investigators had the same conclusion with the raw data. A pilot study with respondent's representative of the target demographic was done the instrument reliability. pre- testing was done was done to evaluate survey questions to modify or remove those that were deemed to be insufficient or unclear to boost the research instruments quality and increase their dependability. Further, Cronbach alpha Correlation Coefficient was used to estimate the reliability of research instruments. A correlation coefficient of 0.732 was obtained for the head teachers' questionnaire and 0.731 for the teachers' questionnaire. Considering the threshold of at least 0.7 correlation coefficient proposed by Mugenda and Mugenda (2009), the instruments were deemed reliable.

3.9 Data Collection Procedures

The researcher first requested approval from the Chuka University Ethics Committee. The National Commission for Science, Technology, and Innovation (NACOSTI), a government agency entrusted with organizing research programs across the country, then granted the researcher authorization to conduct research. The researcher asked the county commission and the county director of education for permission to conduct study using the clearance and an introduction letter from the university. The researcher subsequently scheduled meetings with the head teachers of the chosen schools, the TSC county director, and the sub-county director of education to discuss the study's objectives. With the help of two research assistants, the researcher looked for a suitable day and time to gather data from all the respondents and administered the questionnaires. After providing respondents enough time to complete the questionnaires, the completed ones were being gathered. The researcher interviewed the TSC sub-county director and sub-county director of education using an interview guide that contained questions structured around CBC implementation. The researcher first sort for convenient appointment times with the TSC sub-county director and sub-county director of education. The data was audio recorded by the researcher during the interviews after obtaining consent from the informants.

3.10 Data Analysis

Data processing is a means of translating responses in the questionnaire into a form that is easy to manipulate to produce statistical results (Hyndman 2008). This entailed data cleaning, coding, and entering SPSS version 26 (Statistical Package for Social Sciences). Later, data was analysed and organized in a way that can be interpreted by the researcher (Burns & Grove, 2005). In doing so, relationships between the study variables were drawn, linking the study participants to the raw data initially gathered. Analysed data generated descriptive and inferential statistics essential in making conclusions and generalizations. Descriptive statistics used include frequencies and percentages while simple linear regression and Pearson (r) Correlation Coefficient were used to make inferences.

Table 3: Table of Data Analysis

Research Hypothesis	Independent Variables	Dependent Variables	Test Statistics
Ho ₁ : There is no statistically significant relationship between the adequacy of physical resources and the effective implementation of a Competence Based Curriculum in Tharaka Nithi County, Kenya.	Physical resources	Effective Implementation of CBC	Statistical Simple linear regression, Pearson correlation coefficient
Ho ₂ : There is no statistically significant relationship between the adequacy of human resources and the effective implementation of a Competence Based Curriculum in Tharaka Nithi County, Kenya.	Human resources	Effective Implementation of CBC	Statistical measures, Simple linear regression, Pearson correlation coefficient
Ho ₃ : There is no statistically significant relationship between the competencies of human resources and effective implementation of the Competence Based Curriculum in Tharaka Nithi County, Kenya.	Competences	Effective Implementation of CBC	Statistical measures, Simple Linear regression, Pearson correlation coefficient.
Ho ₄ : There is no statistically significant relationship between the adequacy of financial resources on effective implementation of the Competence Based Curriculum in Tharaka Nithi County, Kenya.	Financial resources	Effective Implementation of CBC	Statistical measures, Simple Linear regression, Pearson correlation coefficient

Source: Researcher

3.11 Ethical Consideration

The ethical conduct of research assures that no participant experiences unfavourable consequences from research activities (Cohen, 2011). According to Leedy and Ormrod (2016), there is a need to review the procedural ethical considerations anytime human beings are involved in research. The study strictly followed the ethics guidelines. Items for both the questionnaires and interview were carefully crafted with respect; the identity of the respondents and that of the institution was protected by using codes instead of the names of the respondents and institutions. The researcher's intention was fully explained to the respondents and their consent sought before administering the questionnaire and conducting the interviews. The respondents were sensitized on their right to withdraw or refuse to disclose any information they would not want to divulge. Privacy and confidentiality of the respondents was guaranteed when handling data and assured that the data would be purely for academic purposes. All the information collected in the research was safely kept in a controlled file and accessible to authorized persons only.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the analysis and findings from the study. Conclusions arrived at are guided by information gathered from the head teachers, teachers of grades 5 and 6, and sub-county directors of education and TSC sub-county directors who were interviewed. Most of the findings are presented as frequency tables and percentages. The findings are divided into parts based on the following criteria: demographic data, diagnostic test, effective implementation of competence based curriculum, physical resource sufficiency, human resource availability, teacher competencies, and financial resources.

4.2 Demographic Information of the Respondents

To identify sample characteristics and assess whether the samples accurately reflect the community of interest, the study asked respondents for demographic information. In the current study, the researcher deep-dived into the characteristics of the respondents by determining their gender, age, level of education, and year of employment.

4.2.1 Gender Distribution of the Respondents

The study sought to determine the target population's gender distribution and whether there was bias in the gender distribution of the respondents or whether there was gender parity. Gender of the respondents is broken down as indicated in Table 4.

Table 4: Distribution of Respondents by Gender.

Gender	Head teacher		Teacher		Total	
	F	%	F	%	F	%
Male	58	53.2	100	45.9	158	48.3
Female	51	46.8	118	54.1	169	51.7
Total	109	100	218	100	327	100

According to the findings in table 4, the head teacher's population had 58 male respondents 53.2% compared to 51 females 46.8% of the respondents. The teachers' population had 100 males representing 45.9% males, as compared to 118 females representing 54.1%. The results show that there were more male head teachers than female head teachers in Tharaka Nithi County.

On contrary, the study induces that there are more female teachers in Tharaka Nithi County compared with male teachers. Generally, the study established gender parity among head teachers and teachers because the difference is minimal. According to Mulwa (2017) gender equality promote teamwork and creates an enabling working environment.

4.2.2 Age Brackets of the Respondents

The researcher sought to determine the age distribution of the respondents. The findings of their ages are shown in Table 5.

Table 5: Age of the Respondents

Respondents	Below 25 years		26-30 years		31-35 years		36-40 Years		Above 41		Total
	F	%	F	%	F	%	F	%	F	%	
Head teachers	0	0	6	5.5	10	9.2	11	10.1	82	75.2	100
Teachers	6	2.8	17	7.8	53	24.3	50	22.9	92	42.2	100
Total	6	1.8	23	7.0	63	19.2	61	18.6	174	53.2	100

According to the study, most head teachers who responded were over the age of 41 (75.2%), followed by those who were between the ages of 36 and 40 at 10.1%. None of the head teachers were under the age of 25, and a small number (5.5%) were between the ages of 26 and 30. The findings show that most head teachers are experienced teachers, and at middle-age. Most teachers were above the age of 41 (42.2%), followed by those between the ages of 31 and 35 24.3%, and just a small percentage of them were under the age of 25 (2.8%). According to the survey, experienced teachers were present in most schools. According to Pont (2017), the more a person works, the better their experience becomes; as a result, many instructors in Tharaka Nithi have the teaching experience necessary to successfully implement competence based curriculum. This argument is correlates with Tengo (2016) who opined that teaching experience positively affect the effective implementation of CBC, thus, the more a teacher has taught, the more experience obtained and hence better performance.

4.2.3 Respondents' Level of Education

The survey also aimed to determine the educational backgrounds of the teachers and head teachers. The results are shown in Table 6.

Table 6: Respondents' Academic Qualification

Respondents	PhD		Master's degree		Bachelor's degree		Diploma		Certificate		Total
	F	%	F	%	F	%	F	%	F	%	%
Head teachers	0	0	7	6.4	44	40.4	47	43.1	11	10.1	100
Teachers	2	0.9	7	3.2	56	25.7	84	38.5	69	31.7	100
Total	2	0.9	14	4.9	100	30.6	131	40.0	80	24.5	100

Table 6 shows that a small percentage (0.9%) of the respondents' teachers had a Ph.D. or more, which is the highest degree level of education, whereas none of the head teachers had that level of education, while a majority of the respondents had diploma certificates (43.1%) for head teachers and (38.5%) for teachers. The study also established that 40.4% of head teachers and 25.7% of the teachers had bachelor's degrees, respectively. In comparison with 6.4% of head teachers and 3.2% of 7 teachers were reported to have attained a master's as their highest academic qualification. The majority of the respondents possessed the necessary educational qualification for teaching. Therefore, they could implement CBC effectively. This argument is supported by Nneke and Nina (2015) assertion that teachers who are highly qualified are likely to implement curriculum more effectively. Similarly, Frankel (2010) opined that highly qualified teachers are able to apply good teaching approaches in teaching and learning, hence, they are able to present their content in an interesting way that make learners understand the subject matter easily and attain greater academic performance.

4.2.4 Respondents' Duration of Service in Tharaka Nithi County

The study also aimed to determine how long the respondents had worked as teachers in Tharaka Nithi County. The findings are displayed in Table 7.

Table 7: Respondents' Year of Service in Tharaka Nithi County.

Respondents	Less than 1 year		2-5 years		6-9 years		10-13 years		Total
	F	%	F	%	F	%	F	%	
Head teachers	8	7.3	50	45.9	25	22.9	26	23.9	100
Teachers	16	7.3	73	33.5	55	25.2	74	33.9	100
Total	24	7.3	123	37.6	80	24.4	100	30.9	100

Table 7 shows respondents working experience in Tharaka Nithi County, 45.9% head teachers reported to have worked in Tharaka Nithi County for between 2 to 5 years. Those who had worked for between 10 to 13 years comprised the second majority at 23.9%, followed by 22.9% who revealed that they had worked in Tharaka Nithi County for between 6-9 years. The least were those who had worked for less than one year at (7.3%). Among the teacher's majority (33.9%) indicated that they had worked in Tharaka Nithi county for between 10 to 13 years. The second majority (33.5%) comprised teachers who had worked for between 2 and 5 years. This group was followed by 25.2% of teachers who had worked in Tharaka Nithi County for between 6-9 years. A small number of teachers (7.3%) had worked for less than a year. The results show that, in comparison to teachers, most head teachers had not worked in Tharaka Nithi County for a long time. This can be attributed to the Teachers Service Commission's (TSC) delocalization policy.

4.2.5 Respondents' Participation in In-Service Training

The study sought information from the respondents to determine whether instructors and head teachers have taken part in any in-service training. The findings are presented in Table 8

Table 8: Respondents' Participation in In-Service Training.

Respondents	Yes		No		Not sure		Total
	F	%	F	%	F	%	
Head teachers	91	83.5	16	14.7	2	1.8	100
Teachers	185	84.9	29	13.3	3	1.4	100
Total	276	84.4	45	13.8	5	1.5	100

From the research findings, a substantial majority of the head teachers (83.5%), reported having participated in in-service training for teachers. A small percentage 14.7% of the Head teachers reported of not had attended in an in-service training. While (1.8%) of head teachers were not sure. Pertaining to teachers' majority (84.9%)

reported to have participated in an in-service training for teachers. A small number of the respondents (13.3%) said they had never received in-service training, and 1.4% were unsure. According to study findings, the majority of head teachers and instructors have participated in teacher in-service training. Retraining of teachers is critical for effective implementation of a curriculum. More so, as indicated by Darling-Hammed (2010) in service training for teachers enables them to implement curriculum more effectively and guarantee high learners' achievements. Thus, for successful implementation of CBC teachers should be trained, an observation supported by Njagi (2020) who stated that teachers need in-service training for effective implementation of competence based curriculum especially on the aspect of assessment.

4.2.6 Respondents' Opinion on CBC Components in In-Service Training

The study also aimed to determine whether the respondents' in-service training included any CBC elements. Table 9 presents the findings.

Table 9: Respondents' Opinion on Components of CBC in In-service the Training.

Respondents	Yes		No		Not sure		Total
	F	%	F	%	F	%	
Head teachers	90	82.5	14	12.8	5	4.6	100
Teachers	174	79.8	30	13.8	4	1.8	100

The findings in Table 9 indicate majority (82.5%) of respondents stated that there was competence based curriculum implementation components in the in-service training. However, 12.8% of the respondents reported that no CBC implementation components included in the in-service training, while 4.6% were not sure. On teachers' responses majority (79.8%) indicated that the in-service training included a CBC implementation component. However, 13.8% of the respondents stated that there was no CBC implementation component in the in-service training and 1.8% were not sure. The findings reveal that most respondents had attended a training where CBC implementation components were covered.

The finding of the current study concurs with the findings by Waweru (2018) who observed that 97.5% of head teachers and 100% of teachers had attended trainings where CBC components were taught. The results support research findings by Rutere and Njeru (2019), which indicated that teachers needed training before adopting the

CBC curriculum, and Makunja (2016, who believes that teachers' insufficient in-service training after the introduction of CBC hinders effective implementation of competence based curriculum.

4.2.7 Respondents Training on Effective Implementation of CBC

Additionally, the study aimed to determine if respondents had received training on CBC implementation. Table 10 present the findings.

Table 10: Respondents' Training on Effective Implementation of CBC

Respondents	Yes		No		Not sure		Total
	F	%	F	%	F	%	
Head teachers	99	90.8	4	3.7	6	5.5	100
Teachers	147	67.4	50	22.9	21	9.6	100

From the results majority (90.8%) of the respondents had been trained on effective implementation of CBC, while 3.7% of the head teachers reported not having been trained, and 5.5% were not sure. On teachers' responses 67.4% of teachers indicated that they had received training on how to implement CBC effectively, while 22.9% respondents stated that they had not received training in effective implementation of CBC and 9.6% were not sure. The study found that most respondents have received training in how to apply CBC effectively. However, these findings disagree with Koskei and Chapchumba (2020) assertion that 90% of schools had one or no trained teacher in the CBC implementation.

4.2.8 Responses on Training in Preparation for the Implementation of CBC

The study further sought information from the head teachers on whether teachers in their schools had received training prior to the implementation of CBC. Table 11 displays the results.

Table 11: Head Teachers' Responses on Teachers' Training in Preparation for Implementing CBC.

Respondents	Yes		No		Not sure		Total
	F	%	F	%	F	%	
Head teacher	103	94.5	5	4.6	1	0.9	100

Regarding teacher training in preparation for effective implementation CBC, 94.5% of the respondents submitted that teachers in their schools had been trained in preparation for effective CBC implementation. A small percentage (4.6%) of the respondents stated otherwise, and 0.9 were not sure. The findings disagree with Makunja (2016) indication that majority of the teachers (73%) were yet to be trained before implementing CBC. Only a small number (27%) of the teachers had received such training. This affected effective implementation of CBC by limiting teacher’s pedagogical knowledge to employ CBC approaches in teaching and learning process. Koskei and Chapchumba (2020) concur with this argument by stating that teachers’ competencies significantly influence effective implementation of competence based curriculum.

4.2.9 Respondents Category of Schools

The study also aimed to identify the respondents' category of schools. Table 12 presents the results.

Table 12: Respondents' Responses on their Category of Schools.

Category of Schools	Head teachers		Teachers		Total %
	F	%	F	%	
Public Boarding Only	2	1.8	6	2.8	100
Public Day only	78	71.6	133	61.0	100
Public Day and Boarding	29	26.6	79	36.2	100
Total	109	100	218	100	100

Most of the head teachers’ respondents were from public day only schools at (71.6%), Public day and boarding accounted for 26.6% while public boarding only at 1.8% of the respondents. Among the teacher’s majority (61.0%) were from public day only schools, while 36.2% were from public day and boarding institutions, with a small number of respondents (2.8%) from public boarding only schools. According to the report, many public elementary schools in Tharaka Nithi County are open exclusively on weekdays.

4.3 Diagnostic Test

Testing of coded data was done to approve its viability for analysis of parametric data. Four diagnostic tests were performed and their results are presented in this subsection

4.3.1 Normality Test

A normality test was performed to determine whether sample was drawn from a normally distributed population. Test of the normality of the data was done using two different statistical tests: The Kolmogorov-Smirnov test and the Shapiro-Wilk Test. The results are shown in Table 13

Table 13: Normality Test for the Head Teachers

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Effective CBC	.187	109	.086	.981	109	.115
APR	.161	109	.171	.925	109	.076
AHR	.183	109	.056	.960	109	.073
CHR	.147	109	.190	.958	109	.068
AFR	.145	109	.198	.923	109	.052

a. Lilliefors Significance Correction

Table 13 shows that the K-S test for the effective implementation of competence based curriculum was $0.86 > 0.05$, and the S-W test was $0.115 > 0.05$. K-S results for Adequacy of physical Resources (APR) was $0.171 > 0.05$, while S-W results was $0.076 > 0.05$. Additionally, Table 13 shows that the K-S result for Adequacy of Human Resource was $0.56 > 0.05$ and S-W result was $0.73 > 0.05$. Moreover, K-S result for Competencies for Human Resource (CHR) was $0.190 > 0.05$ and for S-W was $0.068 > 0.05$. Lastly, K-S result for adequacy of financial result was $0.198 > 0.05$ while S-W result was $0.52 > 0.05$. This indicates that the study data for effective CBC implementation, adequacy of physical resources, adequacy of human resource, competence for human resource and adequacy of financial resources portrayed a normal distribution since each variable had a probability value (p-value > 0.05 significance level). Thus, the current study qualifies the normality hypothesis that the data is normally distributed. The researcher further conducted normality test to test the normality of the teacher's data. The results are presented in Table 14.

Table 14: Normality Test for Teachers

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
E.cbc	.277	217	.066	.881	217	.122
apr	.251	217	.131	.943	217	.066
ahr	.273	217	.066	.845	217	.053
chr	.237	217	.120	.934	217	.067
afr	.235	217	.178	.874	217	.050

a. Lilliefors Significance Correction

The results in Table 14 summarizes the Kolmogorov-Smirnov and Shapiro-Wilk tests for the teachers' data. The K-S test for effective implementation of CBC Was $0.066 > 0.05$, while S-W test was $0.122 > 0.05$. Further, k-S results for adequacy of physical resource was $0.131 > 0.05$, and S-W was $0.066 > 0.05$. K-S for adequacy of human resource was $0.066 > 0.05$, while S-W was $0.053 > 0.05$. Moreover, K-S for competence for human resource was $0.120 > 0.05$ and S-W test was $0.067 > 0.05$. Additionally, K-S for adequacy of financial resources was $0.178 > 0.05$ while S-W test was $0.50 > 0.05$. Based on the results none of the variables show significant departure from normality as all their P- values are greater than 0.05 for both tests. Therefore, the results indicate that these variables are normally distributed in the dataset.

4.3.2 Collinearity Test

Collinearity test was carried out to establish the linear correlation among variables. The collinearity test was also performed to test the presence of collinearity problem. The head teachers' results are displayed in Table 15.

Table 15: Collinearity Test for Head Teachers.

Model	Coefficients ^a							
	95.0% Confidence Interval for B		Correlations			Collinearity Statistics		
	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF	
(Constant)	.940	2.001						
1	APR	.150	.424	.475	.377	.321	.763	1.710
	AHR	-.228	.018	.177	-.163	-.131	.746	1.641
	CHR	.166	.518	.420	.353	.298	.898	1.813
	AFR	.051	.353	.405	.252	.206	.745	1.543

a. Dependent Variable: EFFECTIVE CBC

Table 15 shows collinearity results for the variable under study, the findings indicate that adequacy of physical resource had Variance Inflation Factor (VIF) of 1.710, adequacy of human resource had a variance inflation factor of 1.641, competence of human resource had variance inflation factor of 1.813 and adequacy of financial resource had variance inflation factor of 1.543. Therefore, the study concludes that there was absence of multicollinearity between the study variables.

The study also aimed to establish collinearity from the teachers' coded data. The results are showed in Table 16.

Table 16: Collinearity Test for Teachers

Model	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	1.779	1.972					
a.p.r	.078	.381	.334	.334	.334	1.000	1.800
a.h.r	.028	.013	.164	.153	.143	.733	1.587
c.h.r	.186	.338	.334	.266	.256	.872	1.747
a.f.r	.126	.247	.265	.165	.156	.872	1.847

a. Dependent Variable: Effective CBC

Table 16 shows collinearity results for the variable under study, the findings indicate that adequacy of physical resource had Variance Inflation Factor (VIF) of 1.800, adequacy of human resource had a variance inflation factor of 1.587, competence of human resource had variance inflation factor of 1.747 and adequacy of financial resource had variance inflation factor of 1.847. Therefore, the study concludes that there was no multicollinearity problem between the study variables.

4.3.3 Auto Correlation Test

This test was performed to estimate the degree of correlation between the values of the variables observed in the data. The Durbin-Watson test was employed to test auto correlation. Table 17 shows head teachers' Durbin –Watson test results.

Table 17: Durbin-Watson Test for Head Teachers

Model	R	Model Summary ^b			Durbin-Watson
		R Square	Adjusted R Square	Std. Error of the Estimate	
1	.613 ^a	.376	.352	.56018	1.723

a. Predictors: (Constant), AFR, CHR, APR, AHR

b. Dependent Variable: EFFECTIVE CBC

Table 17 indicate that the Durbin- Watson test statistic, R Square in this model is 0.376 indicating a perfect fit of the model to the data. The Durbin-Watson test is 1.723 which shows positive auto correlation. Further, the study performed Durbin-Watson test on the teachers' data to check the degree of correlation between the variables. Teachers Durbin-Watson findings are presented in Table 18

Table 18: Durbin-Watson Test for Teachers

Model	R	Model Summary ^c			Durbin-Watson
		R Square	Adjusted R Square	Std. Error of the Estimate	
1	.369 ^b	.136	.128	.62252	1.737

a. Predictors: (Constant 0, AFR, CHR, APR, AHR

b. Dependent Variable: Effective CBC.

Table 18 summarizes the Durbin-Watson test statistic findings for the teachers' data. The R Square for this model is 0.136 indicating a perfect fit of the model to the data. The Durbin-Watson test result is 1.737 which establishes a positive auto correlation.

4.3.4 Heteroskedasticity Test

Heteroskedasticity test was performed to establish situations of the variance of the residuals. In the current study P-P plot regression was used to test heteroskedasticity. Residuals were analyzed and graphs of the residuals were plotted. Figure 2 presents heteroskedasticity test for head teachers' data while Figure 3 shows heteroskedasticity test for teachers' data.

Normal P-P Plot of Regression Standardized Residual
Dependent variable: Effective CBC

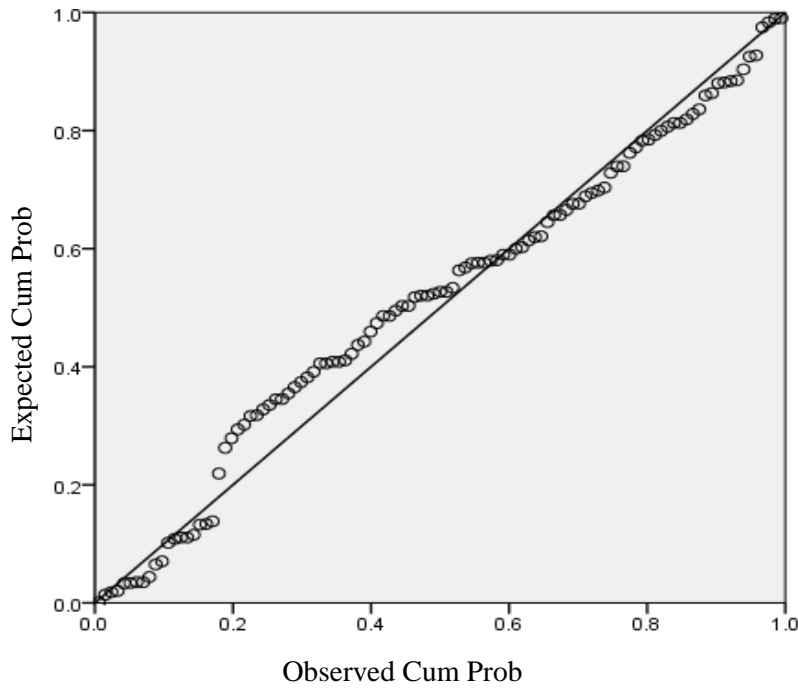


Figure 2: Heteroskedasticity for Head teachers.
Source: Researcher

Normal P-P Plot of Regression Standardized
Residual Dependent variable: Effective CBC

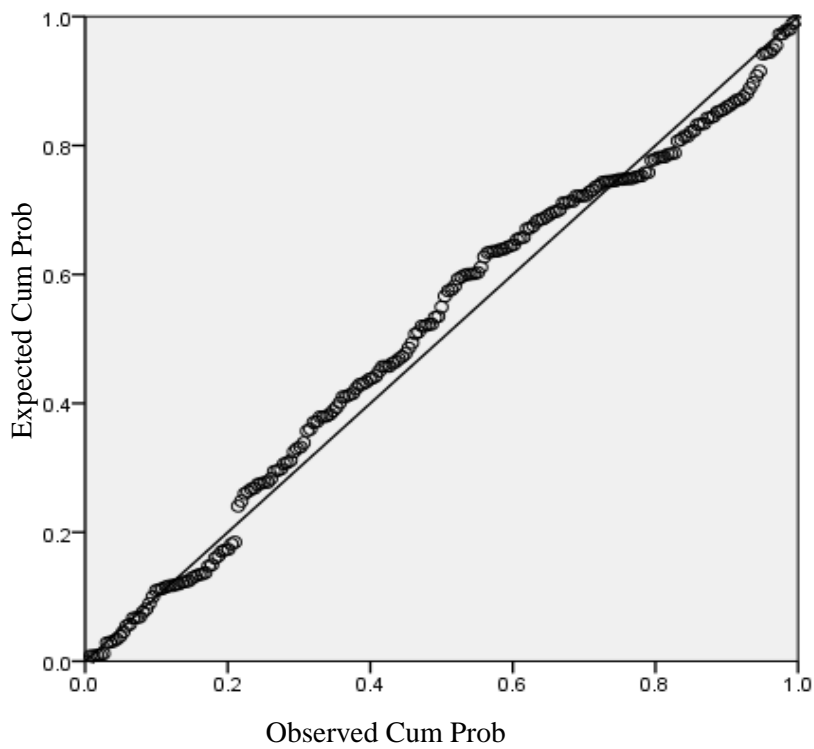


Figure 3: Heteroskedasticity for Teachers
Source: Researcher

Figure 2 and Figure 3 indicate a constant variance since residuals form a pattern of a straight line. These results show absence of heteroskedasticity therefore the data is fit for use in analysis for this study.

4.4 Implementation of Competence Based Curriculum

4.4.1 Introduction

The researcher addressed the effective implementation of CBC by involving the head teacher, teachers, sub-county directors of education, and TSC sub-county directors. The study sought respondents' opinion on various aspects of effective implementation of CBC; the study sought to establish learner's level of achievement of CBC competencies, CBC relevance to the learners, teacher's level of satisfaction with the CBC implementation, parent's level satisfaction with CBC implementation, CBC contribution to learner's creativity, CBC evaluation criterion in helping teachers to address instruction gaps and parent's engagement in CBC learning. The study also sought the level of preparedness for effective implementation of competence based curriculum.

4.4.2 Effective Implementation of Competence Based Curriculum

Information was sought regarding the effectiveness of the implementation of competence based curriculum. Respondents were required to indicate their agreement with given statements on effective implementation of competence based curriculum in their schools measured by a Likert scale with rangers: Strongly agree (5); Agree (4); Not sure (3); Disagree (2) and strongly disagree (1) Table 19 shows the frequencies and percentages of head teacher's responses.

Table 19: Head Teacher's Responses on Effective Implementation of CBC

Statement	SA		A		U		D		SD		Total
	F	%	F	%	F	%	F	%	F	%	
The CBC contributes to the learner's achievement of competencies	22	20.2	65	59.6	9	8.3	12	11.0	1	0.9	100
The CBC curriculum enables learners to acquire values that are useful in the society	30	27.5	65	59.6	3	2.8	9	8.3	2	1.8	100
The CBC curriculum is relevant to learners' needs	22	20.2	56	51.4	15	13.8	9	8.3	7	6.4	100
Teachers are satisfied with the implementation of CBC	10	9.2	23	21.1	17	15.6	41	37.6	18	16.5	100
The parents are satisfied with the implementation of CBC curriculum	4	3.7	7	6.4	24	22.0	52	47.7	22	20.2	100
The CBC is contributes to the development of learner's creativity	28	25.7	65	59.6	7	6.4	7	6.4	2	1.8	100
CBC assessment criterion is helps teachers to address gaps in instruction	12	11.0	48	44.0	23	21.1	21	19.3	5	4.6	100
The parents are engaged in CBC learning	16	14.7	53	48.6	14	12.8	19	17.4	7	6.4	100

SA= Strongly Agree; A=Agree; U=Undecided; D=Disagree; SD=Strongly disagree; F=Frequency and %=Percentage

Table 19 summarizes findings of the head teacher's assessment of the successful implementation of CBC among public primary schools in Tharaka Nithi County. Regarding the assertion that CBC's contribution to the achievement of learner competencies, the study established that a substantial majority (59.6%) of the respondents agreed that the CBC curriculum contributes to achieving learners' competencies. While 20.2% of the respondents strongly agree that CBC contributes to the achievement of learners' competencies. However, 0.9% of the respondents strongly disagreed with the proposition, while, 8.3% of respondents were undecided and 11.0% disagreed. Based on the head teacher's responses, CBC enables learners to achieve CBC core competencies. Concerning CBC allowing the learners to acquire values useful in society, the findings reveal that 59.6% of the respondents agreed that CBC enables learners to develop values useful in society, while 27.5% strongly agreed. A small percentage 1.8% of the respondents strongly disagreed with the proposition, while 8.3% disagreed and 2.8% respondents were undecided.

Regarding the assertion that competence based curriculum is relevant to learners' needs 51.4% of the respondents agreed with the proposition that CBC was relevant to the learner's needs. This was followed by 20.2% who strongly agreed. While 6.4% of the total number of respondents strongly disagreed that CBC was relevant to the learners' needs, further, 13.8% of the respondents were undecided and 8.3% disagreed with the statement. On the statement that teachers were satisfied with the CBC implementation 37.6% of the respondents disagreed that teachers were satisfied with the implementation of CBC. However, 23 respondents, which accounted for 21.1%) of the total respondents agreed with 9.2% of the respondents strongly agreeing that teachers were satisfied with CBC implementation, while 16.5% strongly disagreed and another 15.8% respondents were undecided.

On parents' satisfaction with the implementation of CBC 47.7% of the respondents disagreed with the assertion, while 3.7% of the respondents strongly agreed and 22.0% were undecided. However, 20.2% of the respondents strongly disagreed, and 6.4% of the respondents agreed. Majority of the respondents disagreed with the assertion that parents were satisfied with the implementation of CBC. The study findings are supported by Gitahi (2019) establishment that parental involvement in CBC

implementation was pivotal for effective implementation of CBC and that parent ought to play the major role in their children's education by guiding them, providing the required teaching and learning materials as well as sending assignments to teachers. The study further established that CBC contributes to developing learners' creativity. Majority (59.6%) of the respondents agreed that CBC contributes to developing learners' creativity, while 25.7% of the respondents strongly agreed. However, small number of the respondents (1.8%) strongly disagreed that CBC contributed to the development of learners' creativity, while 6.4% strongly disagreed, and 6.4% were undecided.

On the assertion that CBC assessment criterion in helping teachers to address gaps in instruction, 44.0% of the respondents indicated that the CBC assessment criterion assisting teachers in addressing gaps in instruction, with 11.0% strongly agreeing with the statement. While 4.6% of the respondents strongly disagreeing compared to 19.3% respondents who disagreed and 21.1% had no opinion on the proposition. In regard to parent's engagement in CBC teaching and learning 48.6% of the respondents agreed that parents were involved in CBC learning. However, 17.4% of the respondents disagreed, and 14.7% strongly agreed while 12.8% were undecided and 6.4% strongly disagreed respectively. The findings of the current study indicate that 63.3% Of the respondents agree that parents were involved in CBC curriculum implementation, hence, disagree with those of Rutere and Njeru (2019), who found that 80% of parents were not involved in the teaching and learning of the competence based curriculum and that parents lacked clarity about the procedure and their role in the successful implementation of CBC. The findings of this study however agrees with Mwarari, Githui and Menje (2020) who had established that lack of parental engagement in the implementation of a curriculum impacts negatively on the educational performance of the learners.

Therefore, it is important to have good collaboration between parents and teachers for effective implementation of CBC. Further, the argument is supported by Amunga, Were and Ashioyo (2020) who show that parents are supposed to work as co educators with teachers and provide the necessary teaching and learning material. More so, Thuba (2018) agrees that parental engagement in curriculum implementation improves school

attendances, learning behaviour, academic outcomes and learners' transition to the next academic level. The study further sought teachers' views on the effectiveness of implementation of competence based curriculum. The results in frequencies and percentages are presented in Table 20.

Table 20: Teachers' Responses on Effective Implementation of CBC.

Statement	SA		A		U		D		SD		Total
	F	%	F	%	F	%	F	%	F	%	
The CBC curriculum contributes to the achievement of learner's competencies	21	9.6	112	51.4	38	17.4	33	15.1	14	6.4	100
The CBC curriculum is enables learners to acquire values that are useful in the society	38	17.4	126	57.8	22	10.1	23	10.6	9	4.1	100
The CBC curriculum is relevant to learners' needs	29	13.3	112	51.4	25	11.5	39	17.9	13	6	100
Teachers are satisfied with the implementation of CBC curriculum	8	3.7	33	15.1	38	17.4	86	39.4	53	24.3	100
The parents are satisfied with the implementation of CBC curriculum	6	2.8	22	10.1	44	20.2	79	36.2	67	30.7	100
The CBC is contributes to the development of learner's creativity	33	15.1	136	62.4	20	9.2	20	9.2	9	4.1	100
CBC assessment criterion is helps teachers to address gaps in instruction	11	5.0	76	34.9	46	21.1	37	26.1	28	12.8	100
The parents are engaged in CBC learning	20	9.2	110	50.5	23	10.6	35	16.1	30	13.8	100

SA= Strongly Agree; A=Agree; U=Undecided; D=Disagree; SD=Strongly disagree; F=Frequency and %=Percentage

The findings of the teachers' assessments of the successful implementation of CBC in public primary schools in Tharaka Nithi County are summarized in Table 20. On the role of CBC to the acquisition of competencies by learners. According to the report, 51.4% of the respondents agreed that the CBC curriculum helped learners develop their competencies, while 6.4% strongly disagreed with the proposition and 15.1% of the respondents disagreed with the statement. Nevertheless, 9.6% of the respondents strongly agreed with the proposition and 17.4% gave no opinion. The findings establish that implementation of CBC curriculum has enabled learners to acquire the core competencies as envisaged in the adoption and implementation of CBC curriculum. On the assertion that CBC curriculum enables learners to acquire values useful in society majority (57.8%) of the respondents asserted that CBC was assisting students in developing morals that were beneficial to society, and 17.4% strongly believed that CBC was impacting valuable values in society. However, 10.1% of the respondents had no opinion. additionally, 10.6% of the respondents disagreed and 4.1% strongly disagreed. The findings imply that CBC curriculum impacted useful societal values to the learners.

Regarding CBC's relevance to the needs of the learners 51.4% of the respondents agreed that CBC was relevant to the needs of the learners. However, 17.9% of the respondents disagreed with the proposition. Further, 6.0% of the sampled population strongly disagreed with the statement that CBC was relevant to students' needs, 13.3% strongly agreed while 11.5% of the respondents had no opinion. The implication of this finding is that majority of the respondents' reveal CBC curriculum was relevant to the needs of the learners. Furthermore, on the assertion that teachers were satisfied with the CBC curriculum implementation 39.4% of the respondents disagreed that teachers were satisfied with the implementation of CBC compared to 15.1% who agreed. However, 24.3% of the respondents strongly disagreed and 3.7% strongly agreed, while 17.4% of the respondents had no opinion. The finding on this statement indicate that majority of the respondents were dissatisfied with the CBC curriculum implementation. On Parents' satisfaction with the implementation of CBC 36.2% of the respondents' disagreed and 30.7% strongly disagreed. A small number of the respondents 2.8% firmly agreed that parents were happy with the way CBC was being implemented and 10.1% agreed while 20.2% of the respondents had no opinion.

The findings concur with the head teacher's opinion that established that parents were unhappy with the implementation of CBC. This could be attributed to inadequate parental involvement in the initial plan and the demanding role in CBC implementation. Gitahi (2019) observed that parental involvement in a learner's education is very important in a learner's educational outcome. Therefore, parents need to understand their role in the implementation of competence based curriculum.

Further, on the statement that CBC curriculum contributes to the development of learners' creativity majority (62.4%) of the respondents agreed that CBC contributes to the development of learners' creativity and 15.1% of the respondents strongly agreed with the statement. However, 9.2% had no opinion, while 9.2% of the respondents disagreed and (4.1%) strongly disagreed. From the findings it is clear that effective implementation of CBC enables learners to develop their creativity skills. On the assertion that CBC assessment criterion helps teachers address gaps in instruction 34.9% of the respondents agreed while 26.1% disagreed. However, (21.1%) of the respondents had no opinion while 12.8% strongly disagreed and 5.0% strongly agreed. According to the data, a slight majority of respondents believed that CBC assessment criteria helped teachers fill in any gaps in efficient CBC instruction. In regard to the assertion that parents were engaged in CBC teaching and learning 50.5% of the respondents agreed while 9.2% strongly agreed. Additionally, 13.8% of the respondents strongly disagreed and 16.1% disagree with the assertion while 10.6% held no opinion. The majority of respondents noted that parents participated in CBC teaching and learning based on the study's findings. Johnetta, Storey & Zhang (2011) agreed with the study findings by noting that teachers and parents ought to work together in education for learners to achieve higher academic performance. Further, the findings are supported by Amunga, Were and Ashioya (2020) who established that teachers should engage with parents, especially when it comes to the provision of essential teaching and learning resources.

4.4.3 Level of Preparedness for Effective CBC Implementation

The study sought views from teachers as well as head teachers on their level of preparedness to implement CBC. Head teacher's responses are shown in Table 21.

Table 21: Head Teacher's Responses on Level of Preparedness for Effective CBC Implementation.

Statement	S A		A		U		D		SD		Total
	F	%	F	%	F	%	F	%	F	%	
All stakeholders were involved in the implementation of CBC	3	2.8	25	22.9	13	11.9	41	37.6	27	24.8	100
Adequate preparation was done before the implementation of CBC	1	0.9	21	19.3	10	9.2	43	39.4	34	31.2	100
The government has provided enough teaching and learning resources to aid the teachers in implementing CBC	3	2.8	21	19.3	7	6.4	44	40.4	34	31.2	100
The government has provided adequate physical resources for the effective implementation of the CBC	2	1.8	17	15.6	7	6.4	49	45.0	34	31.2	100
The teaching and learning resources available are of high quality	2	1.8	11	10.1	10	9.2	51	46.8	35	32.1	100
The school has adequate infrastructure to implement CBC at all levels	2	1.8	14	12.8	12	11.0	51	46.8	30	27.5	100
The school infrastructure (classes, laboratories, offices, etc.) is adequate for CBC implementation	5	4.6	14	12.8	5	4.6	38	34.9	47	43.1	100

SA= Strongly Agree; A=Agree; U=Undecided; D=Disagree; SD=Strongly Disagree; F=Frequency and %=percentage

Table 21 summarizes head teachers' responses on whether adequate preparations were made in readiness for effective implementation of competence based curriculum. Concerning the issue that all stakeholders were involved in the implementation of CBC 37.6% of the respondents disagreed with the assertion while 24.8% strongly disagreed. However, 22.9% of the respondents agreed and 2.8% of respondents who strongly agreed. More so 11.9% of the respondents held no opinion. The findings reveal that all stakeholders were not fully involved in the implementation of CBC. This concur with the findings by Momanyi and Rop (2019) who established that there was inadequate stakeholder's involvement before the implementation of CBC curriculum. Lack of stakeholder's engagement and public participation affect effective implementation of CBC, it is crucial to engage all stakeholders in the implementation of CBC for it to achieve the intended results (Momanyi & Rop, 2019). This assertion is also supported by Cheptoo and Ramandas (2020) argument that for effective implementation of CBC there is a need to involve and consult all concern stakeholders to enable successful implementation of the competence based curriculum.

On the statement that adequate preparation was done before the implementation of CBC a Slight majority (39.4%) of the respondents disagreed while 31.2% of the respondents strongly disagreed. A small percentage of the respondents reported that there was adequate preparation before the implementation of CBC at 0.9%. Further, (19.3%) of the respondents agreed with the statement, while 9.2% were undecided. The indication on this aspect induce that government had not made adequate preparation before initiating CBC curriculum. Further, on the proposition that government had availed enough teaching and learning resources to aid the teachers in implementing CBC 31.2% of the respondents strongly disagreed with the statement while 40.4% disagreed. However, 2.8% of the respondents strongly agree that the government had availed sufficient teaching and learning resources and 19.3% agreed while 6.4% gave no opinion.

The findings reveal that government had not provided sufficient teaching and learning resources to aid effective implementation of CBC. Amadi, Ezeugo & Chinyara, (2019) agrees with the findings by observing that teachers and learners require adequate teaching and learning facilities for effective teaching and learning to take place. Similarly, Barman (2011) supports the findings by stating that teaching and learning

facilities are necessary and that learners are supposed to be provided with sufficient resources to interact with them and create meaning out of them in the CBC curriculum approaches.

Pertaining to the assertion that the government had provided adequate physical resources for the effective implementation of CBC 45.0% of the respondents disagreed with the assertion while 31.2% strongly disagreed respectively. A small percentage 1.8% of the respondents strongly agreed with the proposition while 15.6% agreed that the government had provided adequate physical resources to implement CBC effectively and 6.4 % had no opinion. The findings indicate that physical resources were inadequate for effective implementation of CBC. Physical resources directly affect the teachers and learner's performance, by providing adequate physical resources learners can obtain quality education and the education goals would be meant (Shah, Ukah & Khan, 2013). This argument is affirmed by Sakwa (2019) observation that for effective implementation of CBC curriculum sufficient physical resources need to be availed. Concerning the statement on whether the teaching and learning resources available are of high quality the findings of the current study shows that 46.8% of the respondents disagree and 32.1% strongly disagree respectively. However, a small number of the respondents 1.8% strongly agreed and 10.1% agreed with the statement that the teaching and learning resources available are of good quality. Additionally, 9.2% of the respondents remained unconvinced. This finding indicate that physical resources provided in schools were of poor quality thus, hindering effective implementation of competence based curriculum.

According to the study, 46.8% and 27.5% of the respondents disagreed and strongly disagreed with the claim that schools have the necessary physical infrastructure in place to successfully implement CBC at all levels. However, a small percentage 1.8% of respondents strongly agreed while 12.8% agreed and 11.0% gave no opinion. From the findings public primary schools have insufficient physical infrastructure to facilitate effective implementation of CBC at all levels in schools effectively. On adequacy of school infrastructure for effective implementation CBC 43.1% of the respondents strongly disagreed while 34.9% disagreed respectively. However, 4.6% of the respondents strongly agreed and 12.8% agreed with the statement. Further, 4.6% gave no opinion. Schools lacked adequate infrastructure to fully implement CBC curriculum.

Teachers views on the level of preparedness for effective implementation of competence based curriculum were sought. Teachers' responses in frequencies and percentages are shown in Table 22.

Table 22: Teacher's Responses on their Level of Preparedness for Effective CBC Implementation

Statement	SA		A		NO		D		SD		Total %
	F	%	F	%	F	%	F	%	F	%	
All stakeholders were involved in the implementation of CBC	10	4.6	44	20.2	32	14.7	69	31.7	63	28.9	100
Adequate preparation was done before the implementation of CBC	12	5.5	22	10.1	22	10.1	72	33.0	90	41.3	100
The government has provided enough teaching and learning resources to aid the teachers in implementing CBC	10	4.6	24	11.0	15	6.9	85	39.0	84	38.5	100
The government has provided adequate physical resources for effective implementation of CBC	16	7.3	12	5.5	20	9.2	92	42.2	78	35.8	100
The teaching and learning resources available are of high quality	12	5.5	20	9.2	13	6.0	92	42.2	81	37.2	100
The school has adequate infrastructure to implement CBC at all levels	17	7.8	19	8.7	15	6.9	87	39.9	80	36.7	100
The school infrastructure (classes, laboratories, offices etc.) is adequate for CBC curriculum implementation	12	5.5	19	8.7	14	6.4	86	39.4	87	39.9	100

SA= Strongly Agree; A=Agree; NO=No Opinion; D=Disagree; SD=Strongly Disagree; F=Frequency and %=percentage

Table 22 summarizes the teachers' responses on adequacy of preparedness to successfully implement competence based curriculum. Regarding the assertion that all stakeholders were involved in implementing CBC majority (31.7%) of the respondents disagreed with the assertion while 28.9% others strongly disagreed. However, 20.2% of respondents agreed with the statement while 4.6% strongly agreed, and 14.7% had no opinion. The findings establish that all stakeholders were not involved in the implementation of CBC. This finding is confirmed by Sifuna and Obonyo (2019) postulation that parents and other education stakeholders were not fully incorporated in the implementation of CBC. Stakeholders' involvement is necessary to support teacher's effort in the implementation of CBC. This argument is in agreement with Gitahi (2019) assertion that teachers and parents need to work as partners to enhance learners' acquisition of competencies and CBC skills. Stakeholders' involvement promotes positive learning outcomes for learners. Hence, the need to involve all stakeholders in the CBC implementation process.

Pertaining to the assertion that adequate preparations were done before the implementation of CBC 41.3% of the respondents strongly disagreed with the assertion while 33.0% disagreed. A small percentage 5.5% of the respondents strongly agreed and 10.1% agreed, while another 10.1% who were undecided. Concerning the statement that the government have made enough teaching and learning tools available to help the instructors adopt CBC 38.5% of the respondents strongly disagree while 39.0% disagreed. However, 4.6% of the respondents strongly agreed that the government had made available enough teaching and learning tools. Further, 11.0% of the respondents agreed and 6.9% held no opinion. The findings indicate that 77.5% of the respondents posit that there was insufficient teaching and learning materials for successful implementation of competence based curriculum.

Additionally, on the statement that government had providing adequate physical resources for the effective implementation of CBC 42.2% of the respondents disagreed while 35.8% strongly disagreed with the proposition. However, 7.3% of the respondents strongly agreed and 5.5% agreed with the proposition, while 9.2% had no opinion. When asked if the available teaching and learning resources were of high quality, 42.2% and 37.2% of the respondents disagreed and strongly disagreed respectively with the

assertion. In contrast 9.2% and 5.5% of the respondents agreed and strongly agreed with the statement respectively, and 6.0% of the respondents had no view. According to the study, respondents disagreed and strongly disagreed with the claim that schools possessed the necessary infrastructure to implement CBC at all levels, respectively at 39.9% and 36.7%. However, 7.8% of the respondents strongly agreed, and 8.7% agreed while 6.9% of the respondents had no opinion. The findings concur with the head teacher's findings that schools in Tharaka Nithi County have insufficient infrastructure to enable effective implementation of CBC. Concerning the proposition that school's infrastructure was adequate for effective implementation of CBC slight majority (39.9%) of the respondents strongly disagreed with the statement while (39.4%) of the respondents disagreed respectively to the proposition that the school infrastructure (classes, laboratories, offices, etc.) is adequate for CBC curriculum implementation. However, 5.5% of the respondents strongly agreed, while 8.7% agreed and 6.4% gave no opinion. Teachers' responses on the adequacy of preparedness for CBC implementation strongly disagreed with all the assertions at different levels. Teachers' responses concur with the head teacher's observation that adequate preparation was not done to implement CBC effectively and the findings by Kimosop (2019) argument that proper preparations were not adequately done for effective implementation of competence based curriculum

4.5 Adequacy of Physical Resources and Effective Implementation of Competence Based Curriculum

4.5.1 Introduction

The first objective of the study was to establish the adequacy of physical resources for effective implementation of CBC in Tharaka Nithi County. The relationship between adequate of physical resources and the successful implementation of competence based curriculum is also examined in this section. The research instrument addressed the availability and adequacy of physical resources to measure the effectiveness of implementing CBC and the extent availability and adequacy of physical resources affect effective implementation of competence based curriculum.

4.5.2 Adequacy of Physical Resources

Through the study, the researcher wanted to find out whether there were enough physical resources available in Tharaka Nithi County, Kenya, to implement CBC effectively. The research instrument addressed several aspects that could measure the adequacy of physical resource for effective of implementation of CBC. To gauge the respondents level of agreement with the research propositions, a Likert scale to measure the research variables. The scale variables were: Very adequate (5); Adequate (4); No opinion (3); Inadequate (2) and Very inadequate (1). Head teachers' findings are presented in Table 23.

Table 23: Head Teachers' Responses on the Adequacy of Physical Resources

Physical Resource	VA		A		NO		I		VI		Total %
	F	%	F	%	F	%	F	%	F	%	
Classrooms	20	18.3	43	39.4	1	0.9	36	33.0	9	8.3	100
Furniture	11	10.1	29	26.6	4	3.7	50	45.9	15	13.8	100
Playground	17	15.6	37	33.9	5	4.6	38	34.9	12	11.0	100
Learning/Teaching Aids	3	2.8	15	13.8	8	7.3	65	59.6	18	16.5	100
Laboratories	6	5.5	5	4.6	10	9.2	35	32.1	53	48.6	100
Land	21	19.3	33	30.3	7	6.4	35	32.1	13	11.9	100
Offices	8	7.3	35	32.1	5	4.6	42	38.5	19	17.4	100
Textbooks	9	8.3	60	55.0	2	1.8	32	29.4	6	5.5	100
Reference books	3	2.8	33	30.3	6	5.5	51	46.8	16	14.7	100
Computers	6	5.5	13	11.9	8	7.3	60	55.0	22	20.2	100
Computer rooms	7	6.4	10	9.2	3	2.8	48	44.0	41	37.6	100
Music rooms	2	1.8	9	8.3	5	4.6	39	35.8	54	49.5	100
Toilets	14	12.8	40	36.7	10	9.2	37	33.9	8	7.3	100
Water	13	11.9	51	46.8	9	8.3	29	26.6	7	6.4	100
Electricity	17	15.6	55	50.5	8	7.3	20	18.3	9	8.3	100
Library	2	1.8	9	8.3	9	8.3	46	42.2	43	39.4	100
Workshops	4	3.7	5	4.6	9	8.3	43	39.4	48	44.0	100
Bookstores	6	5.5	13	11.9	10	9.2	45	41.3	35	32.1	100
Nutritional laboratories	1	0.9	2	1.8	14	12.8	32	29.4	60	55.0	100

VA=Very Adequate; A=Adequate; NO=No Opinion; I=Inadequate; VI=Very Inadequate; F=Frequency and %=Percentage

Table 23 shows that majority (39.4%) of the respondents reported that classrooms were adequate while 33.0% of the respondents stated that classrooms were inadequate. However, one respondent did not give an opinion on the adequacy of classrooms representing 0.9% while, 18.3% of the respondents stated that classrooms were very adequate. However, 8.3% of the respondents indicated that classrooms were very inadequate. The study findings reveal that classrooms were adequate. The findings concur with Ngeno (2021) observation that classrooms were adequate in majority of schools. However, the findings disagree with Nturibi (2015) who observed that schools had insufficient classrooms leading to overcrowded classroom and in poor condition. In regard to adequacy of furniture, majority (45.9%) of the respondents asserted that furniture was inadequate for effective CBC implementation. In contrast, 26.6% of the respondents pointed out that furniture was adequate for effectively implementing CBC. Additionally, 13.8% of the respondents indicated that furniture was very inadequate, while 10.1% indicated that furniture was very adequate and 3.7% of the respondents had no opinion. The current study established that there was inadequate furniture in public primary schools, thus affecting successful implementation of competence based curriculum.

On adequacy of the playground 34.9% of the respondents asserted that the playground was inadequate, while 33.9% of the respondents reported that playground was adequate. More so, 15.6% respondents stated that playground was very adequate while 11.0% indicated that playground was very inadequate and 4.6% of the respondents had no opinion. The findings indicated that a slight majority (49.5%) of the respondents indicated that playgrounds were adequate in Comparison to 45.9% who indicated that playgrounds were inadequate. The results of the present study disagree with Ngeno (2021), who found that there were insufficient playgrounds in public primary schools, which had an impact on sports and other outdoor activities. Consequently, competence based curriculum implementation may not be effective. It is crucial that schools provide a sufficient playground where students can nurture their talents.

Concerning adequacy of teaching and learning aid majority (59.6%) of the respondents stated that teaching and learning aids were inadequate while 16.5% of the respondents reported that the teaching and learning aids were very insufficient. However, 2.8% of

the respondents said that teaching and learning aid was very adequate and 13.8% indicated that teaching and aid were adequate. Further, 7.3% of the respondents had no opinion. The findings on this aspect indicate that teaching and learning facilities were not adequate for successful implementation of competence based curriculum. These findings concur with Mugabo, Ozawa and Nkundabakura (2021) who identified that inadequacy of teaching and learning aid negatively affect effective implementation of CBC. The same revelation correlate with the findings by Ndayambaje's (2018) postulation that insufficient teaching and learning aid in schools affect effective implementation of CBC negatively. Though one of the sub counties directors of education stated that teaching and learning resources ought to be adequate in all public primary schools as he stated that; *“most of the CBC teaching and learning resources are supposed to be home made so depending on the motivation and innovativeness of the individual teachers they are supposed to be adequate because teachers are required to use the locally available resources to improvise them”*

On the adequacy of laboratories, a majority (48.6%) of the respondents indicated that laboratories were very inadequate for effective CBC implementation and 32.1% shows that laboratories were inadequate for implementing CBC effectively. However, a small percentage (5.5%) of the respondents observed that laboratories were very adequate for the effective implementation of CBC and 4.6% asserted that laboratories were adequate for the effective implementation of CBC while 9.2% had no opinion on the proposition. This finding is in concurrence with Nturibi (2015) establishment that laboratories among other resources were inadequate in most of public primary schools, thus, affecting effective implementation of competence based curriculum.

According to the research's findings, the majority of respondents (32.1%) believed there wasn't enough land to successfully execute the CBC program. On contrast, 30.3% of the respondents indicated that land was adequate. However, 11.9% of the respondents indicated that land was very inadequate to implement CBC effectively, while 19.3% of the respondents pointed out that land was very adequate and 6.4% had no opinion. From the findings land was adequate in most of the public primary schools for successful implementation of competence based curriculum.

The finding disagrees with Ngeno (2021) postulation that there was inadequate land for agriculture in most public primary schools and a number of primary schools shared the same land with their neighboring secondary schools limiting sports and agricultural activities. Sufficient land for agricultural activities is very important since agriculture is a compulsory subject besides being a practical subject.

In terms of the offices' suitability for the efficient implementation of CBC, the results show that most respondents (38.5%) believed that the offices were insufficient. This is contrary to 32.1% of others who asserted that offices were adequate for the effective implementation of CBC. However, 7.3% of the respondents stated that offices were very adequate for the effective implementation of CBC, while 17.4% indicated that offices were very inadequate. However, 4.6% of the respondents gave no opinion. The study findings reveal that office space was not sufficient to enable CBC curriculum to be implemented effectively. On adequacy of textbooks for effective implementation of CBC majority (55.0%) of the respondents stated that textbooks were adequate, contrary to 29.4% who said they were inadequate. In addition, 8.3% of the respondents asserted that textbooks were very adequate while 5.5% of the respondents pointed out that textbooks were very inadequate for the effective implementation of CBC while 1.8% of the respondents had no opinion. The findings posit that public primary schools have adequate textbooks, this finding is supported by both TSC sub county directors and sub county directors of education who stated that schools have adequate textbooks.

Concerning the adequacy of reference books for the effective implementation of CBC majority (46.8%) of the respondents observe that reference books were inadequate for the effective implementation of CBC. In contrast, reference books were deemed adequate for the successful implementation of CBC by 30.3% of the respondents. Additionally, 14.7% of the respondents opined that reference books were very inadequate compared to 2.8% of the respondents who stated that reference books were very adequate for effective implementation of CBC, while 5.5% of the respondents gave no opinion. From the findings reference books in public primary schools were inadequate while textbooks were adequate. Sufficient provision of both textbooks and reference books is essential for effective implementation of competence based curriculum.

Pertaining to the adequacy of computers for effective implementation of CBC majority (55.0%) of the respondents asserted that computers were inadequate for the effective implementation of CBC. Additionally, 20.2% of the respondents indicated that computers were very insufficient for effective implement CBC. Comparatively, 11.9% of the respondents reveal that computers were adequate, while 7.3% had no opinion. A small number 5.5% of the respondents indicate that computers were very adequate for the effective implementation of CBC. The finding concurs with research by Njeru and Itegi (2018) conducted in Tharaka Nithi County who found that schools had inadequate computers. Also, the findings correlate with Kiugu, Kibaara and Wachira (2021) study conducted in Meru County who established that schools had insufficient digital teaching and learning devices, this study further observed that inadequate digital devices could lead to teachers developing negative attitude that could affect CBC implementation negatively. These findings agree with Mwendwa (2018) study in Kitui county report that 96.1% of public primary schools in Kitui County had insufficient computers, hence, affecting infusing digital literacy to learners.

When responding to the adequacy of computer rooms for the effective implementation of CBC majority (44.0%) of the respondents observed that computer rooms were inadequate for the effective implementation of CBC, and 37.6% of the respondents stated that computer rooms were very inadequate. However, 9.2% of the respondents indicated that computer rooms were adequate for effective implementation of CBC and 6.4% opined that computer rooms were very adequate. Further, 2.8% of the respondents had no opinion. The study postulated that 81.6% of the respondents induced that computer rooms are inadequate in public primary schools. In support of this argument Keiyoro (2011) argues that failure to provide adequate digital teaching and learning resources can negatively affect infusing of digital literacy to the learners and lower the quality of digital learning. Therefore, it is vital for the government to provide adequate digital resources including computer rooms.

On the adequacy of music rooms for effective implementation of CBC majority (49.5%) of the respondents indicated that music rooms were very inadequate, additionally, 35.8% of the respondents induced that music rooms were inadequate for effective implementation of CBC. However, 8.3% and 1.8% of the respondents stated that music

rooms were adequate and very adequate respectively for effective implementation of CBC, while 4.6% of the respondents held no opinion. The results suggest that 85.3% of the respondents said that music rooms were insufficient; as a result, the government should build suitable music rooms in public primary schools to ensure that competence based curriculum is implemented successfully. Concerning the adequacy of toilets for the effective implementation of CBC majority (36.7%) of the respondents indicated that toilets were adequate for the effective implementation of CBC. Additionally, 33.9% stated that toilets were inadequate, while 12.8% of the respondents indicated that toilets were very adequate, moreover, 7.3% indicated that toilets were very inadequate for the effective implementation of CBC and 9.2% of the respondents had no opinion. Sanitation facilities are very important not only in educational institutions but the whole society, therefore, there adequacy is very crucial especially in public primary schools.

Regarding the adequacy of water for the effective implementation of CBC majority (46.8%) of the respondent asserted that water was adequate for the effective implementation of CBC, while to 26.6% of the respondents argued that the water was inadequate for effective implementation of CBC. More so, 11.9% of the respondents stated that water was very adequate, while 6.4% indicated that water was very inadequate for the effective implementation of CBC, and 8.3% had no opinion. Concerning whether power was sufficient for the effective implementation of CBC, the majority (50.5%) of the respondents felt that it was. While 18.3% of the respondents felt that electricity was insufficient for the effective implementation of CBC. Further, 15.6% of the respondents asserted that electricity was very adequate, while 8.3% indicate that electricity was very inadequate for implementing CBC effectively and a small percentage 7.3% of the respondents gave no opinion.

According to the results, 42.2% of respondents believe that libraries are insufficient, and 39.4% of the respondents believe that libraries are quite inadequate for the successful implementation of CBC. A small number of the respondents 1.8% indicated that libraries were very adequate, while 8.3% stated that libraries were adequate for the effective implementation of CBC. Another 8.3% of the respondents had no opinion. Libraries are very essential in schools; well-equipped libraries are necessary for effective implementation of CBC. Both teachers and learners require libraries, teachers

use libraries in preparation of teaching notes and lessons preparation while learners require libraries to assist them in writing reports and doing assignments. Regarding the adequacy of workshops, 44.0% of the respondents stated that the workshops were very inadequate additionally, 39.4% stated workshops were inadequate. However, 3.7% of the respondent's stated that the workshops were very adequate, while 4.6% of the respondents indicated workshops were adequate, and 8.3% had no opinion. Workshops are necessary for instructors to be able to instill CBC capabilities in students to execute competence based curriculum effectively.

Concerning the sufficiency of bookstores for the effective implementation of CBC 41.3% and 32.1% of the respondents stated that bookstores were inadequate and very inadequate respectively for effective implementation of CBC. However, a small percentage of the respondents 5.5% indicated that bookstores were very adequate, while 11.9% indicated that they were adequate and 9.2% of the respondents had no opinion. Regarding the adequacy of nutritional laboratories for the effective implementation of CBC majority (55.0%) of the respondents opined that nutritional laboratories were very inadequate for the effective implementation of CBC, while 29.4% indicated that nutritional laboratories were inadequate. A small number (0.9%) of the survey sample stated that nutritional laboratories were very adequate, while 1.8% of the respondent said the nutritional laboratories were adequate, and 12.8% gave no opinion. The study found that physical amenities such laboratories, libraries, workshops, bookstores, and nutritional laboratories are insufficient in Tharaka Nithi County's public elementary schools. The findings of the current study agree with Amadi, Ezeugo and Chinyere (2019) observations that inadequacy of physical facilities affect successful implementation of competence based curriculum since both teachers and students need adequate physical facilities for meaningful teaching and learning to take place.

In a similar vein, Chaudbary (2015) found that the quality and sufficiency of physical resources and suitable facilities have a significant impact on the efficient implementation of CBC in her research on the determinants influencing curriculum implementation for students. With enough physical resources, teaching and learning may take place effectively.

The study further sought to establish teachers' views on the adequacy of physical resources for successful implementation of CBC in Tharaka Nithi County. The results presented in frequencies and percentages are shown in Table 24.

Table 24: Teacher Responses on Adequacy of Physical Resource.

Physical Resource	VA		A		NO		I		VI		Total %
	F	%	F	%	F	%	F	%	F	%	
Classrooms	22	10.1	90	41.3	14	6.4	73	33.5	19	8.7	100
Furniture	18	8.3	68	31.2	17	7.8	96	44.0	19	8.7	100
Playground	27	12.4	84	38.5	18	8.3	70	32.1	19	8.7	100
Teaching/Learning Aids	5	2.3	48	22.0	19	8.7	119	54.6	27	12.4	100
Laboratories	5	2.3	10	4.6	24	11.0	79	36.2	100	45.9	100
Land	19	8.7	85	39.0	25	11.5	65	29.8	24	11.0	100
Offices	20	9.2	70	32.1	20	9.2	87	39.9	21	9.6	100
Textbooks	23	10.6	115	52.8	13	6.0	58	26.6	9	4.1	100
Reference books	13	6.0	70	32.1	19	8.7	87	39.9	29	13.3	100
Computers	9	4.1	36	16.5	18	8.3	100	45.9	55	25.2	100
Computer rooms	8	3.7	20	9.2	16	7.3	92	42.2	82	37.6	100
Music rooms	3	1.4	11	5.0	14	6.4	75	34.4	115	52.8	100
Toilets	23	10.6	77	35.3	16	7.3	73	33.5	29	13.3	100
Water	20	9.2	95	43.6	13	6.0	65	29.8	25	11.5	100
Electricity	34	15.6	99	45.4	17	7.8	39	17.9	29	13.3	100
Library	5	2.3	16	7.3	13	6.0	85	39.0	99	45.4	100
Workshops	3	1.4	10	4.6	23	10.6	81	37.2	101	46.3	100
Bookstores	4	1.8	32	14.7	11	5.0	90	41.3	81	37.2	100
Nutritional laboratories	1	0.5	5	2.3	20	20.0	68	31.2	124	56.9	100

VA=Very Adequate; A=Adequate; NO=No Opinion; I=Inadequate; VI=Very Inadequate; F=Frequency and %=percentage

Table 24 shows that the majority of the respondents (41.3%) believe their classrooms were suitable for implementing CBC in an effective way, while 33.5% opined that classrooms were inadequate for implementing CBC effectively. However, 6.4% of the respondents did not have an opinion on the adequacy of classrooms. While 10.1% of the respondents observed that classrooms were very adequate for the effective implementation of CBC. However, a small percentage 8.7% of the respondents indicated that the availability of classrooms for effective implementation of CBC was very inadequate. According to the report, most schools have ample classroom space. However, the findings disagree with Nturibi (2015) who found that classrooms in the Ruiru location were overcrowded, meaning there was insufficient and more classrooms were needed.

Regarding the adequacy of furniture for the effective implementation of CBC majority (44.0%) of the respondents said that furniture was inadequate for the effective implementation of CBC, while 31.2% of the respondents reported that the furniture was adequate. Further, 8.3% of the respondents agree that the furniture was very adequate, while 8.7% asserted that furniture was very inadequate for the effective implementation of CBC, and 7.8% of the respondents gave no opinion. Teachers' findings on this aspect correlate with the head teacher's findings that furniture was inadequate in public primary schools. On the adequacy of the playground for effective implementations of CBC majority (38.5%) of the respondents point out that playground was adequate, while 32.1% reported that the playground was inadequate. However, 12.4% of the respondents indicate playground was very adequate and 8.7% of the respondents indicated that playground was very inadequate and 8.3% gave no opinion. The findings postulate that playground was sufficient in public primary schools. This finding was in harmony with Hwande and Mpofu (2017) who observed that 100% of the schools had adequate sport fields.

Most of the respondents (54.6%), when asked if teaching and learning tools were adequate for the effective implementation of CBC, answered in the negative, while 22.0% asserted that teaching and learning aids were adequate. However, 2.3% of the respondents reported that the teaching and learning aids were very adequate.

In contrast, 12.4% of the respondents reported that the teaching and learning aids were very inadequate, while 8.7% of the respondents gave no opinion. The findings conclude that teaching and learning materials were insufficient to successfully implement competence based curriculum. The findings concur with Mugabo, Ozawa and Nkundabakura (2021) who observed that there was insufficient teaching and learning resources which affected effective implementation of CBC negatively. As a result, suitable teaching and learning resources must be provided in public primary schools. There were 45.9% of the respondents who reported that laboratories were very inadequate while 36.2% of the total submissions stated that the laboratories were inadequate. In contrast, 2.3% of the respondents reported that the laboratories were very adequate and 4.6% reported that they were adequate, while 11.0% of the respondents gave no opinion. From the submission 82.1% of the respondents posit that laboratories were inadequate in public primary schools; this situation affects CBC implementation especially on acquiring the core CBC competencies. The findings of the current study concur with Wambua and Waweru (2019) argument that schools had inadequate laboratories, which is a critical physical resource for effective implementation of CBC. The findings also agree with the sub county directors of education who indicated that laboratories were not adequate for effective implementation of competence based curriculum in Tharaka Nithi County.

From the study 39.0% of the respondents stated that there was adequate land for implementing CBC effectively. In contrast, 29.8% of the respondents note that land was inadequate for CBC implementation effectively. However, 8.7% said that land was very adequate, while 11.0% of the respondents indicated that land was very inadequate for the effective implementation of CBC. Additionally, 11.5% of the respondents had no opinion. Land is crucial in nurturing talents among the learners, playground is required for sports activities and agricultural land for learner's agricultural plots are need, thus, adequate land in all public primary schools is a prerequisite for effective implementation of competence based curriculum. Furthermore, sub county directors of education confirm that there was ample space for public primary schools, and one of them even claimed that there was excess land especially in the two Tharaka Sub Counties and Igamba Ng'ombe sub County.

Regarding the adequacy of offices for the effective implementation of CBC majority (39.9%), of the respondents reported that offices were not adequate. This differs from 32.1% of the respondents who stated that offices were adequate for implementing CBC effectively. However, 9.2% of the respondents said that offices were very adequate for the effective implementation of CBC compared to 9.6% of the respondents who indicated that offices were very inadequate, and 9.2% gave no opinion. Teachers requires adequate space for preparations; hence, inadequate offices could affect teacher's moral thus, killing their motivation that could lead to poor preparation thus, affecting negatively CBC implementation.

Concerning the adequacy of textbooks for the effective implementation of CBC, majority (52.8%) of the respondents opined that textbooks were adequate for the effective implementation of CBC. Contrary to 26.6% who said that textbooks were inadequate. In addition, 4.1% of the respondents assert that textbooks were very inadequate compared to 10.6% of the respondents who indicated that textbooks were very adequate, while 6.0% had no opinion. The findings induced that text books were adequate in public primary schools a position supported by head teachers. These findings disagree with Ondimu (2018), who contend that there were delays in the publishing and distribution of textbooks significantly impacted the effective implementation of CBC. The current study found that 63.4s% of public schools have sufficient textbooks. A hurdle to implementing CBC effectively could be the lack of textbooks in public primary schools.

Regarding the adequacy of reference books for the effective implementation of CBC majority (39.9%) of the respondents reveal that reference books were inadequate. However, 32.1% of the respondents averred that reference books were adequate, and 6.0% induced that reference books were very adequate while 13.3% of the respondents asserted reference books were very inadequate and 8.7% did not indicate their opinion. Reference books need to be more adequate for both teachers and learners for reference, insufficient reference books therefore, lead to ineffective CBC implementation.

On the aspect of availability and adequacy of computers for the efficient execution of CBC, most respondents (45.9%) claim that computers were insufficient, while 25.2% of the respondents said that computers were extremely insufficient. However, a small number of respondents (4.1%) claim that the computers were more than enough, while 16.5% say that computers were adequate and 8.3% of the respondents don't know. The current findings are in harmony with Ngeno (2021) establishment that computers were inadequate in most of public primary schools which was a challenge to effective CBC implementation. This argument is supported by TSC sub county directors who observed that only few computers are found in schools which are not adequate for teaching and learning purposes. To revert this situation a study by Khan, Shah and Ullah (2013) in Pakistan recommend setting up a special fund to provide computers to schools and to mobilize the local community and donors for computers funding purposes. Regarding the adequacy of computer rooms for effective implementation of CBC majority (42.2%) of the respondents induced that they were inadequate, and 37.6% asserted that computer rooms were very inadequate. However, 9.2% of the respondents noted that computer rooms were adequate and 3.7% indicated that computer rooms were very adequate while 7.3% of the respondents held no opinion. The results of the current study correlate with Hwande and Mpofu (2017) observation that 90% of the schools did not have computer rooms. For effective implementation of CBC there is need to have sufficient computer rooms in all public primary schools.

Regarding the adequacy of music rooms for effective implementation of CBC majority (52.8%) of the respondents stated that music rooms were very inadequate. Additionally, 34.4% of the respondents indicated that music rooms were inadequate. A small percentage (1.4%) of the respondents asserted that music rooms were very adequate for the effective implementation of CBC and 5.0% point out that music rooms were adequate, while 6.4% gave no opinion. The findings indicate 87.2% of public primary schools have inadequate music rooms. Music skills is one of the CBC competencies that need to be infused to learners thus, necessitating the provision of music rooms. Furthermore, according to the research findings, majority of respondents (35.3%) of the participants said that toilets were adequate for the proper implementation of CBC, while 33.5% of the respondents disagreed.

More so, 13.3% of the respondents indicated that toilets were very inadequate, and 10.6% of the respondents stated that toilets were very adequate for effective implementation of CBC, and 7.3% had no opinion. The results show a slight majority (46.8%) of the respondents indicated that toilets were inadequate while 45.9% indicate that toilets were adequate. Sufficient toilets facilities are necessary for conducive teaching and learning environment.

In terms of the adequacy of water for the effective implementation of CBC majority (43.6%) of the respondents averred that water was adequate for the effective implementation of CBC. Contrary, 29.8% of the respondents indicated that water was not adequate while 11.5% posit that water was very inadequate. Further, 9.2% of the respondents observed that water was adequate for the effective implementation of CBC, while 6.0% of the respondents held no opinion. The findings indicated that most of public primary schools have adequate water supply. Concerning the adequacy of electricity for the effective implementation of CBC majority (45.4%) of the respondents opined that electricity was adequate for the effective implementation of CBC compared to 17.9% of those who indicated that electricity was inadequate, and 15.6% who postulated that electricity was very adequate while 13.3% of the respondents stated that electricity was very inadequate for effective implementation of CBC and 7.8% respondents held no opinion. Most public schools have power connectivity according to the study's findings. This is affirmed by Ngeno (2021) who averred that most public primary schools were connected with electricity. Moreover, the findings agree with Mwendwa (2018) establishment that 79.7% of public primary schools were connected with electricity in Kitui County. Electricity connectivity in public primary schools is very vital because electricity is required in running ICT related programmes, lighting and also for security purposes.

Regarding the adequacy of libraries in public primary schools for effective implementation of CBC majority (45.4%) of the respondents stated libraries were very inadequate. Further, 39.0% of the respondents reported that libraries were inadequate. A small number of the respondents 2.3% stated that the libraries were very adequate. However, 7.3% indicated that libraries were adequate and 6.0% of the respondents gave no opinion. These findings are in concurrence with Nturibi (2015) postulation that

schools had inadequate libraries for effective implementation of CBC. In order to implement CBC successfully, public elementary schools should have libraries that are well equipped. On the adequacy of workshops in schools for effective implementation of CBC majority (46.3%) of the respondents stated that workshops were very inadequate, while 37.2% of the respondents indicated that workshops were inadequate in public primary schools to facilitate effective implementation of CBC. However, 1.4% of the respondents stated that workshops were very adequate and 4.6% indicated workshops were adequate, while 10.6% of the respondents held no opinion. Competence based curriculum emphasize on nurturing learner's talents therefore, adequate workshops should be provided in all public primary schools.

Relating to the adequacy of bookstores for the effective implementation of CBC majority (41.3%) of the respondent's stated that the bookstores were inadequate, additionally, 37.2% stated that bookstores were very inadequate. However, 14.7% of the respondents averred that bookstores were adequate and 1.8% stated bookstores were very adequate, while 5.0% had no opinion. The findings indicated that bookstores are inadequate in majority of public primary schools. For effective implementation of CBC bookstores need to be provided sufficiently. Regarding the adequacy of nutritional laboratories for effective implementation of CBC majority (56.9%) of the respondents opined that nutritional laboratories were very inadequate, while another 31.2% indicated that nutritional laboratories were inadequate. However, 0.5% and 2.3% of the respondents indicated that nutritional laboratories were very adequate and adequate respectively. More so, 9.2% of the respondents held no opinion. The findings opined that 88.1% of public primary schools have insufficient nutritional laboratories. The findings concur with Nturibi (2015) observation that home science rooms were inadequate in majority of public primary schools. According to sub county directors of education nutritional rooms are not available in public primary schools, teachers convert any available room into a nutritional room. Insufficient nutritional laboratories negatively affect effective implementation of competence based curriculum since learners are expected to infuse home science skills in their learning process.

4.5.3 Extent Physical Resources Affect Effective Implementation of CBC

Respondents views were sought on how much they believed physical resources affected successfully implementation of competence based curriculum. The variables were measured by a Likert-type skill with values as: Very great extent (5); Great extent (4); No opinion (3); Small extent (2) and No extent (1). The results of frequencies and percentages of the head teachers' responses are shown in Table 25.

Table 25: Head Teachers' Responses to Extent Physical Resources Affect Effective Implementation of CBC.

Aspects	VGE		GE		NO		SE		NoE		Total %
	F	%	F	%	F	%	F	%	F	%	
Inadequate physical facilities	32	29.4	58	53.2	2	1.8	14	12.8	3	2.8	100
Inadequate teaching/ learning facilities learning materials	33	30.3	50	45.9	4	3.7	21	19.3	1	0.9	100
Lack of adequate textbooks	28	25.7	36	33.0	9	8.3	26	23.9	10	9.2	100
Inadequate materials needed for digital literacy learning	41	37.6	41	37.6	6	5.5	19	17.4	2	1.8	100
Unavailability of teaching materials for practical learning	50	45.9	40	36.7	3	2.8	13	11.9	3	2.8	100

VGE=Very Great Extent; GE=Great Extent; NO=No opinion; SE= Small Extent; NE= No Extent; F=Frequency and %= Percentage

Table 25 summarizes head teachers' perception on the extent physical resources affect successful implementation of competence based curriculum. The findings indicate that most (53.2%) of the respondents perceived that inadequate physical facilities affect the effective implementation of CBC to a great extent, with 29.4% agreeing to a very great extent. A small percentage of (12.8%) stated that inadequate learning facilities affect the effective implementation of CBC to a Small extent. At the same time 2.8 % of the respondents indicated that inadequate physical facilities did not affect the effective implementation of CBC while 1.8% held no opinion. The results of this study agree with Ngeno, Mweru, and Mwoma's (2021) observations that physical facilities had influence on the successful implementation of competence based curriculum.

Concerning the effects of inadequate teaching and learning materials respondents asserted that they affect effective implementation of CBC to a great extent at 45.9%. Further, 30.3% of the respondents claim that inadequate teaching and learning materials have a significant negative impact on how well CBC is implemented. Additionally, 19.3% said that insufficient teaching and learning resources have a negligible impact on how effectively CBC is implemented. In contrast, 0.9% of the respondents noted that the poor quality of the teaching and learning materials had no impact on the successful implementation of CBC, while 3.7% had no view. This finding establish that 76.2% of the respondents indicated that insufficient teaching and learning materials affect effective implementation of CBC to a great extent. Amunga, Were, and Ashioga's (2020) claim there were insufficient teaching and learning resources among public primary schools, thus, posing a threat to the successful implementation of a competence based curriculum is corroborated by this research.

Pertaining to the effect of adequate textbooks on the effective implementation of CBC majority (33.0%) of the respondents stated that the effect was to a great extent. Furthermore, 25.7% claim that inadequate textbooks had a very significant negative impact on how effectively CBC was implemented. However, 9.2% of the respondents stated that lack of adequate textbooks affected effective CBC implementation to no extent, while 23.9% of the respondents started the effect was to a small extent, and 8.3% had no opinion. The finding indicated that 58.7% of the respondents reveal that insufficient textbooks affect effective implementation of CBC to a great extent.

Concerning the effect of the inadequacy of material needed for digital literacy 37.6% of the respondents indicated that their inadequacy affects the effective implementation of CBC to a great extent, while 37.6% of the respondents indicated effect to a very great extent. A small number of the respondents (17.4%) stated that inadequate material needed for digital literacy affected effective CBC implementation to a small extent, and 1.8% of the respondents said to no extent, while 5.5% held an opinion. This finding concurs with Sifuna and Obonyo (2019) establishment that digital materials had not been supplied to public schools adequately. As a result, the lack of digital literacy teaching and learning resources in public primary schools makes it difficult to execute competence based curriculum effectively.

This argument is affirmed by Sakwa (2019) who averred that insufficient facilities in schools affect effective implementation of competence based curriculum

The majority of respondents (45.9%) believe that lack of teaching and learning resources for practical learning has a very significant impact on how well CBC is implemented, while 36.7% of the respondents reported the effect to a great extent. However, 2.8% of the submissions reported that the unavailability of teaching materials for practical learning affected the effective implementation of CBC to no extent, while 11.9% of the respondents indicated the effect to a small extent, and 2.8% had no opinion. The findings induced that 82.6% of the respondents asserted that unavailability of teaching materials for practical teaching and learning affect CBC implementation negatively. According to the sub county directors of education teachers are required to improvise teaching and learning resources with locally available resources, but some competence based curriculum contents needs materials that cannot be improvised mostly in sciences subjects.

All five aspects measured affect effective implementation of CBC greatly, these findings are supported by Akomolafe and Adesua (2016) study conducted in Nigeria that indicated a relationship between performance and physical facilities. Better quality and adequacy of physical facilities motivate learners, hence improving their academic performance. It also concurs with the study done in Arusha City, Tanzania, by Kanyonga (2019) who revealed that inadequate physical facilities hinder effective implementation of CBC. It also agrees with a study in India on factors affecting curriculum implementation for students by Chaudhary (2015) pointed out that physical resources such as sports fields, workshops, libraries, classrooms, laboratories, sports, and that the availability of quality materials and suitable physical resources has a major impact on effective implementation of competence based curriculum.

The study further sought teachers' opinion on the effect of physical resources on effective implementation of competence based curriculum. Table 26 present the results.

Table 26: Teachers Responses to Extent Physical Resources Affect Effective Implementation of CBC.

	VGE		GE		NO		SE		NE		Total %
	F	%	F	%	F	%	F	%	F	%	
Inadequate physical facilities	55	25.2	78	35.8	23	10.6	44	20.2	18	8.3	100
Inadequate teaching/ learning facilities	45	20.6	86	39.4	11	5.0	50	22.9	26	11.9	100
Lack of adequate textbooks	42	19.3	67	30.7	19	8.7	65	29.8	25	11.5	100
Inadequate materials needed for digital literacy learning	75	34.4	55	25.2	16	7.3	45	20.6	27	12.4	100
Unavailability of teaching materials for practical learning	77	35.3	54	24.8	11	5.0	41	18.8	35	16.1	100

VGE=Very Great Extent; GE=Great Extent; NO=No opinion; SE= Small Extent; NE= No Extent; F=Frequency and %=percentage

Table 26 shows responses to the extent physical resources affect effective implementation of CBC. Concerning inadequate physical facilities 35.8% of the respondent stated that inadequate physical facilities affect effective implementation of CBC to a great extent, with 25.2% reporting the effect to a very great extent. A small percentage of the respondents (8.3%) stated that inadequate physical facilities affect the effective implementation of CBC to no extent. Additionally, 20.2% of the respondents indicate that the effect is to a small extent, while 10.6% held no opinion. The finding indicates that 61.0% of the respondents opined that inadequate physical facilities affect effective implementation of CBC to a great extent. Therefore, provision of sufficient physical resources in public primary schools is vital to ensure successful implementation of competence based curriculum.

Pertaining to inadequate teaching and learning resources, majority (39.4%) of respondents felt that insufficient teaching and learning resources have a significant negative impact on CBC's ability to be implemented effectively, whereas (5.0%) of respondents had no view, while 22.9% of participants reported that insufficient teaching

and learning materials have a negligible impact on the effective implementation of CBC. Additionally, a significant percentage of respondents 20.6% say that inadequate teaching and learning materials have a very negative impact on how well CBC is implemented. In contrast, 11.9% of the respondents claim that inadequate teaching and learning resources have small impact on how effectively CBC is implemented. Most of the respondents (60.0%) stated that insufficient teaching and learning resources significantly hinder the effective implementation of the CBC. Therefore, adequate teaching and learning resources must be provided in all public primary schools to guarantee that students master all the competencies covered in the competence based curriculum.

Regarding adequacy of textbooks for effective implementation of CBC majority (30.7%) of the respondents reported that inadequate textbooks affect the effective implementation of CBC to a great extent. Additionally, 19.3% stated the effect to a very great extent. Further, 8.7% of the respondents held no opinion. However, 29.8% of the respondents asserted that inadequate textbooks have small impact on the effective implementation of CBC, while 11.5% of the respondents believed availability of textbooks had no effect on successful implementation of CBC. Adequate textbooks are needed for the successful implementation of competence based curriculum that is why they are essential for any curriculum. On the limited resources required to learn digital literacy, 34.4 percent of respondents believe that they impact the effective implementation of CBC to a very large level, while 25.2 percent say the effect is to a considerable extent., and 7.3% of the respondents held no opinion. However, 20.6% of the respondents opined that inadequate materials needed for digital literacy learning affect the effective implementation of CBC to a small extent. Moreover, 12.4% of the respondents indicate that the inadequacy of digital literacy had no effect on effective implementation of CBC. Majority (59.6%) of the participants indicated that insufficient digital materials affect successful implementation of competence based curriculum to a great extent. Hence, it is critical for the government to supply all public primary schools with adequate digital literacy learning materials and devices to ensure learners acquire digital literacy competencies.

Out of the teachers surveyed regarding the influence of insufficient teaching materials on the successful execution of the Competence Based Curriculum, a significant majority (35.3%) responded that it has a substantial impact. Additionally, a considerable number 24.8% of the stated that it has a notable effect. On the other hand, a small portion 5.0% chose not to express their opinion, while 18.8% of all respondents believed that the dearth of teaching resources for practical learning has minimal effects while 16.1% indicated to no influence on the effective implementation of competence based curriculum.

All responses agreed to a great extent on all the aspects measuring the effect on the effective implementation of CBC. The findings induced that physical facilities, teaching and learning materials, textbooks, digital learning materials and practical teaching materials affect effective in implementing CBC. This study's findings concur with those of a research in River State, Nigeria, by Amadi and Ezeug (2019) on physical resources availability and students' academic performance that established that learning resources are critical for effective teaching and learning outcomes. The same argument is supported by Makunja (2016) who found that inadequate physical resources hinder effective implementation of CBC. Also, the findings are affirmed by Akala and Kigwilu (2017) observation that inadequacy of physical facilities affect effective implementation of CBC greatly. Thus, a need to have adequate physical resources in all public primary schools.

4.5.4 Testing Hypothesis H₀₁:

There is no statistically significant relationship between the adequacy of physical resources and the effective implementation of a competence based curriculum in Tharaka Nithi County, Kenya. The researcher sought to establish the correlation between adequacy of physical resources and effective implementation of competence based curriculum. The regression summary model, Simple linear regression coefficient and the Pearson correlation coefficient tests are presented in this section.

4.5.4.1 Simple Linear Regression

The first objective of this study was to assess the relationship between the adequacy of physical resources and effective implementation of a Competence Based Curriculum in Tharaka Nithi County, Kenya. To assess the relationship between the adequacy of physical resources and effective implementation of competence based curriculum, the following hypothesis was tested H_{01} : There is no statistically significant relationship between the adequacy of physical resources and the effective implementation of a Competence Based Curriculum in Tharaka Nithi County, Kenya. Simple Linear regression summary was performed and the model analysis results are presented in this section. Head teachers' results are shown in Table 27.

Table 27: Head Teachers Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.575 ^a	.331	.318	.91549

a. Predictors: (Constant), A.P.R

Table 27 indicate that adequacy of physical resources had influence on effective implementation of competence based curriculum. R has a value of 0.575 and the R Square which is the correlation between the observed and predicted values of dependent variable is 0.331. This value indicates that 33.1% of the variance in the effective implementation of competence based curriculum can be predicted from the variable APR. This is an overall measure of the strength of association with the dependent variables. Adjusted R Square is a predictor added to the model, each predictor explains some of the variance in the dependent variable were simply due to chance. The value of Adjusted R Square was 0.318. The model's performance is measured by a standard error of the estimate of 0.91549. The results induce that adequacy of physical resources contributes to effective implementation of competence based curriculum. The researcher further did summary model analysis for teachers coded data to establish the percentage of variation that was explained by independent variable in the model. Teachers findings are presented in Table 28

Table 28: Teachers Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.459 ^a	.212	.234	.64396

a. Predictors: (Constant), APR

Table 28 show that adequate physical resources had influence on effective implementation. R has a value of 0.459 and the model's coefficient of determination which is R-Squared is 0.212 indicating that approximately 21.2% of the variability can be explained by the independent variable (APR). The adjusted R-Square, which account for the number of predictors in the model, is 0.234. The standard error of the estimate is 0.64396, representing the average difference between the observed values and the predicted values by the model. The findings indicate that adequate physical resources enhance successful implementation of competence based curriculum.

Further, in relation to the first objective, Simple linear regression coefficient analysis was done to test hypothesis one. The adequacy of physical resources was regressed against the effective implementation of competence based curriculum. Head teacher's results are shown in Table 29.

Table 29: Simple Linear Regression Coefficient for Head Teachers Responses

Model	Unstandardized Coefficients		Standardized Coefficients ^a Beta	T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error				Lower Bound	Upper Bound
(Constant)	2.417	.153		15.834	.000	2.114	2.719
A.P.R	.370	.066	.475	5.578	.000	.239	.502

Table 29 summarizes the head teachers' Simple linear regression coefficient results. The regression intercept labeled 'constant' took a value of 2.417. It represents the predicted value of independent variable when the independent variable has a zero value. The regression slope or unstandardized coefficient (B in SPSS) takes the value 0.370 for physical resources. These was the amount by which the dependent variable change for an increase of 1 unit in independent variable. Therefore, 100% increase in physical resources will lead to a 37.0 % increase in the effective implementation of the CBC. For adequacy physical resources, the t-value is 5.578 at a p-value of 0.00, which is less than 0.05. The null hypothesis is rejected. Because of this, there is a statistically significant link between the sufficiency of physical resources and the successful adoption of a competence based curriculum in Tharaka Nithi County.

The Simple Linear Model for the head teachers' responses is: $Y = 2.417 + 0.37X$ Where Y is the dependent variable (Effective I implementation of CBC) and X is the independent variable (Adequacy of Physical Resources). 2.417 is the constant.

The researcher further conducted Simple linear regression coefficient analysis for teachers coded data to test hypothesis one. The adequacy of physical resources was regressed against the effective implementation of competence based curriculum. Teacher's findings are presented in Table 30.

Table 30: Simple Linear Regression Coefficient for Teachers Responses

Model	Unstandardized Coefficients		Coefficients ^a		Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Standardized Coefficients	T		Lower Bound	Upper Bound
1 (Constant)	19.019	.801		23.757	.000	17.441	20.596
a.p.r	.274	.070	.259	3.934	.000	.137	.412

a. Dependent Variable: Effective CBC

Table 30 shows Simple linear regression coefficient results for teachers, the regression intercept labeled constant' took a value of 19.019. It represents the predicted value of independent variable when the independent variable has a zero value. The regression slope or unstandardized coefficient (B in SPSS) takes the value 0.274 for physical resources. These was the amount by which the dependent variable change for an increase of 1 unit in independent variable. Therefore, 100% increase in physical resources will lead to a 27.4 % increase in the effective implementation of the CBC. For adequacy physical resources, the t-value is 3.934 at a p-value of 0.00, which is less than 0.05. The null hypothesis is rejected. Therefore, in Tharaka Nithi County, there is a statistically significant correlation between the sufficiency of physical resources and the successful implementation of a competence based curriculum. The Simple Linear Model for the teachers' responses is $Y = 19.019 + 0.274X$ where Y is the dependent variables (Effective Implementation of CBC) X is the independent variable (Adequacy of physical resources).

Study conclusions show that the adequacy of physical resources was positive and significant with the effective implementation of competence based curriculum as of the observation with head teachers and teachers. The results support Ngeno's (2021) assertion that physical infrastructure had a moderately beneficial impact on the adoption of CBC. Respondents, concede that adequate availability and use of physical and material resources enhance better learning and teaching, conceptualized as effective implementation of CBC in the study. This argument is advanced by Usman (2015), who noted physical resources have a central role in realizing the achievement of educational objectives and goals, which in this case is having a successful rollout of competence based curriculum.

4.5.4.2 Correlation Analysis of Physical Resources and Effective Implementation of Competence Based Curriculum

The correlation between the dependent variable and the independent variables was examined in this section. To determine whether there was a relationship between the variables individually, the researcher performed the Pearson correlation test. The goal of the study was to determine if adequate physical resources and successfully implementing a competence based curriculum were related. The head teachers' result of correlation of adequacy of physical resources and effective implementation of CBC are shown in Table 31.

Table 31: Correlation for Head Teachers.

		Correlations ^b	
		Effective CBC	A.P.R
Effective CBC	Pearson Correlation	1	.475**
	Sig. (2-tailed)		.000
A.P.R	Pearson Correlation	.475**	1
	Sig. (2-tailed)	.000	

** . Correlation is significant at the 0.01 level (2-tailed).

Table 31 summarizes head teachers' findings on the correlation between adequacy of physical resources and effective implementation of competence based curriculum. The Pearson correlation coefficient gave a value of, 0.475, which was significant at 0.05 level of significance because its p value was 0.000. The information indicates that there is a positive relationship between effective competence based curriculum implementation and the adequacy of the physical resources.

The researcher further computed correlation coefficient from the teachers' data to establish whether there was a correlation between adequacy of physical resources and effective implementation of competence based curriculum. Table 32 presents the findings.

Table 32: Correlation for Teachers

		Correlations	
		Effective CBC	a.p.r
Effective CBC	Pearson correlation	1	.259**
	Sig. (2-tailed)		.000
	N	218	218
a.p.r	Pearson Correlation	.259**	1
	Sig. (2-tailed)	.000	
	N	218	218

** . Correlation is significant at the 0.01 level (2-tailed).

Table 32 shows the correlation between adequacy of physical resources and effective implementation of CBC. The Pearson correlation coefficient established a value of, 0.259, which was significant at 0.05 level of significance because its p value was 0.000. This indicates a positive relationship between effective CBC implementation and the adequacy of the physical resources. The findings from the head teachers and teachers are correlated by a study finding by Ngeno, Mweru, and Mwoma (2021) conducted in Kericho County public primary schools. The study established a correlation between the availability of physical resources and effective implementation of CBC. The head teachers had a correlation coefficient of 0.475 at a p-value of 0.000 while the teachers had a correlation coefficient of 0.259 at a p-value of 0.000, which were both found statistically significant.

4.5.5 Strategies to Enhance Adequacy of Physical Resources

The study sought respondents' suggestions on how to improve adequacy of physical resources in public primary schools in Tharaka Nithi County. Respondents gave suggestions in open ended questions of the questionnaire. The strategies suggested were thoroughly read and segmented into coherent themes points, under every theme were discussed in order of the frequencies with which they were raised. Table 33 present head teachers' suggestions

Table 33: Head Teachers Responses on Strategies to Enhance Adequacy of Physical Resources

Statement	Head teacher	
	F	%
Government to provide adequate physical resources	86	78.9
Additional funding by the government	20	18.3
Parents, stakeholders and donors to support schools	16	14.7
Teachers to improvise with locally available resources	2	1.8

Table 33 presents responses on the strategies that could enhance sufficient physical resources in public primary schools in Tharaka Nithi County. Majority (78.9%) of the respondents stated that government should provide adequate physical resources to all public primary schools emphasizing the need for adequate physical resources for successfully implementation of competence based curriculum. This suggestion is supported by Maino (2013) who high lightened the importance of provision of sufficient resources to schools to facilitate teaching and learning. Additional, 18.3% of the respondents felt that additional funding of public primary schools could enhance adequacy of physical resources in schools to facilitate effective implementation of CBC. However, 14.7% of the respondents averred that parents, stakeholders and donors should support schools in provision of physical resources. A small percentage of the respondents (1.8%) opined that teachers should improvise from the locally available materials.

Further, the study sought to obtain strategies that could be adopted to enhance the availability of physical resources for effective implementation of CBC. Table 34 indicates the strategies the teachers suggested.

Table 34: Teachers Responses on Strategies to Enhance Adequacy of Physical Resources

Strategies	Teachers	
	F	%
Government to provide adequate physical resources	104	47.7
Parents, stakeholders and donor support	40	18.3
Government to fund schools adequately	35	16.0
Teachers to improvise physical resources	7	3.2
Merge schools	1	0.46

Table 34 presents findings that reveal strategies that could be put in place to enhance provision of adequate physical resources in public primary schools in Tharaka Nithi County. Majority (47.7%) of the respondents consider government provision of adequate physical resources as the major strategy that could enhance adequate physical resources. However, 18.3% of the respondents considered Parents, stakeholders and donor support in provision of physical resources in public primary schools as a strategy that could enhance provision of sufficient physical resources in public primary schools in Tharaka Nithi County. Further, 16.0% of the respondents consider allocation for more funds to public primary schools could improve the status of physical resources in schools. Lastly, 0.46% of the respondents stated that merging of schools could assist in provision of adequate physical resources in public primary schools in Tharaka Nithi County. According to Yara and Otieno (2010) quality education depends on availability teaching and learning resources. Hence inadequate teaching and learning resources affects effective implementation of a curriculum. Therefore, appropriate equipment, materials, and tools such as workshops, laboratories, lecture rooms, and relevant texts are required in the teaching and learning process to yield the intended educational outputs.

4.6 Human Resource Adequacy and Effective CBC Implementation

4.6.1 Introduction

This section analysis the second objective of this study that was to ascertain the connection between adequate human resources and successful competence based curriculum implementation in Tharaka Nithi County, by establishing the adequacy of human resources for implementing CBC effectively. The relationship between adequate human resources and the successful application of a competence based curriculum is also examined in this section. The research instrument addressed the availability and adequacy of human resource to measure the effectiveness of implementing CBC and the extent availability and adequacy of human resource affect effective implementation of competence based curriculum.

4.6.2 Availability and Adequacy of Human Resources and Effective Implementation of CBC

Through the study, the researcher wanted to know whether there were enough human resources available in Tharaka Nithi County, Kenya, to implement CBC effectively. The research instrument addressed several aspects that could measure the adequacy of human resource for effective of implementation of CBC. The research variables are measured by a Likert scale to evaluate the respondents' agreement with the propositions. The scale variables were: Strongly agree (5); Agree (4); No opinion (3); Disagree (2) and Strongly disagree (1). Table 35 displays the head teachers' opinions on the human resources adequacy.

Table 35: Head Teachers Responses on the Availability and Adequacy of Human Resource and Effective Implementation of CBC

Statement	SA		A		NO		D		SD		Total %
	F	%	F	%	F	%	F	%	F	%	
We have enough teachers for effective CBC curriculum implementation	10	9.2	28	25.7	5	4.6	44	40.4	22	20.2	100
The school has adequate technical/support staff for the implementation of the CBC	5	4.6	19	17.4	6	5.5	46	42.2	33	30.3	100
Teacher pupil ratio in my school has not affected the implementation of the CBC	18	16.5	23	21.1	13	11.9	38	34.9	17	15.6	100
Class size in my school is conducive to the implementation of CBC	25	22.9	38	34.9	5	4.6	34	31.2	7	6.4	100
Teachers' workload in my school is balanced for the implementation of CBC.	10	9.2	25	22.9	7	6.4	47	43.1	20	18.3	100

SA=Strongly Agree, A=Agree, NO=No Opinion, D=Disagree, SD=Strongly Disagree; F=Frequency and %= Percentage

Table 35 summarizes head teacher's responses on availability and adequacy of human resources in public primary schools for effective implementation of CBC in Tharaka Nithi County, Kenya. Concerning the assertion that public primary schools have adequate teachers for the effective implementation of CBC majority (40.4%) of respondents disagree with the assertion while 25.7% of the respondents agreed with the proposition. Further, 20.2% of the respondents strongly disagreed that there were enough teachers for effective implementation of CBC and 9.2% strongly agreed with the proposition, while 4.6% gave no opinion. The study findings concur with Mugure (2009) observation that most public primary schools have inadequate teachers. TSC sub county directors of education disagree with this finding, they argue that all public primary schools have adequate teachers and the issue of understaff in Tharaka Nithi County does not arise.

Regarding the proposition that public primary schools have adequate technical and support staff for effective implementation of the CBC, 42.2% of the respondents disagreed with the proposition. Additionally, 30.3% of the participants strongly disagreed with the assertion that schools had adequate technical and support staff for effective CBC implementation, a small percentage of the respondents (4.6%) strongly agreed with the statement, while 17.4% agreed with the proposition. However, 5.5% of respondents had no opinion. The finding on this proposition reveal that 72.5% of the respondents disagreed with the proposition. The findings correlate with a study by Eunice (2016) on management challenges faced by school principals when implementing ICT based curriculum and instructions in secondary schools in Elegeyo Marakwet county postulation that there was poor implementation of ICT integration due to lack of technical support in schools.

Most of the respondents (34.9%) disagreed with the claim that the teacher-to-student ratio in schools had little bearing on how effectively CBC is implemented, and 15.6% strongly disagreed. However, 21.1% of the respondents agreed that the teacher-pupil ratio have effect on effective implementation of CBC, and 16.5% strongly agreed that the teacher-pupil ratio have no effect on effective implementation of CBC, while 11.9% of the respondents held no opinion. The results are consistent with research by Wadesango, Hove, and Kurebwa (2016) conducted in Zimbabwe on the impact of large

class sizes on the successful implementation of CBC. The findings induced that teacher to pupil ratio affect effective implementation of CBC and further, found that teacher-pupil ratio of 1:40 is high for effective implementation of competence based curriculum.

Regarding on whether class size was conducive to the effective implementation of CBC 34.9% of the respondents agreed with the proposition. However, 31.2% of the respondents disagreed with the assertion. More so, 22.9% of the respondents strongly agreed that the class sizes were conducive for effective implementation of CBC, while 6.4% strongly disagreed and 4.6% held no opinion. The findings of the current study indicate that class size was conducive for effective implementation of CBC. The claim that class size makes it harder for instructors to use a competence based approach in teaching and learning is backed by Makunja's (2016) argument. This argument is supported by Marais (2016) who averred that crowded classrooms create difficulties for both teachers and learner. Large class size makes Teacher-learners and learners-learners interactions difficult, teachers fail to attend to individual student with difficult in learning. The findings are also affirmed by, Muthusamy (2015) observation that shows that overcrowded classes increase the workload of teachers hence, teachers fail to use learner-centered interactive teaching and learning method as CBC demands.

A majority of the respondents (43.1%) disagreed with the claim that teachers' workloads was balanced for the effective implementation of CBC. In addition, 22.9% of the respondents agreed that teachers' work load was balanced for effective CBC implementation, while 18.3% of the participants strongly disagreed with the proposition. However, 9.2% strongly agreed and 6.4% gave no opinion. The findings of the current study are in harmony with Wadesango, Hove and Kurebwa (2016) observation that teachers handling small class size are able to supervise and manage the learners with ease, on the other hand teachers handling large class size overload with work and are overburden thus, feeling demotivated. This implies that demotivated teacher could not implement competence based curriculum effectively. The current study opines that human resources for implementing CBC curriculum effectively must be improved. The research findings concur with Hwande and Mpofu (2017) study conducted in Tanzania observation that human resources should be adequately availed

and with relevant skills to implement CBC successfully. Among the key variables in implementing a curriculum is the human resource, these are the technocrats implementing the new curriculum. Hence there should be sufficient provision of quality human resource. They should possess the skills required to effectively implement the curriculum. They must be knowledgeable and proficient in the subjects they are teaching.

Further, the study sought teachers' views on whether there were enough human resources available in Tharaka Nithi County, Kenya, to implement CBC effectively. The research instrument addressed several aspects that could measure the adequacy of human resource for effective of implementation of CBC. The research variables were measured by a Likert scale to evaluate the respondents' agreement with the propositions. The scale variables were: Strongly agree (5); Agree (4); No opinion (3); Disagree (2) and Strongly disagree (1). Table 36 present the teachers opinions on the human resources' adequacy for effective implementation of competence based curriculum.

Table 36: Teachers Responses on the Availability and Adequacy of Human Resources for Effective Implementation of CBC

Statement	SA		A		NO		D		SD		Total
	F	%	F	%	F	%	F	%	F	%	%
We have enough teachers for effective CBC curriculum implementation	26	11.9	45	20.6	14	6.4	89	40.8	43	19.7	100
The school has adequate technical/support staff for the implementation of the CBC	15	6.9	33	15.1	20	9.2	92	42.2	58	26.6	100
Teacher pupil ratio in my school has not affected the implementation of the CBC	23	10.6	74	33.9	25	11.5	51	23.4	45	20.6	100
Class size in my school is conducive to the implementation of CBC	32	14.7	77	35.3	23	10.6	57	26.1	29	13.3	100
Teachers' workload in my school is balanced for the implementation of CBC.	17	7.8	43	19.7	13	6.0	83	38.1	62	28.4	100

SA=Strongly Agree; A=Agree; NO=No opinion; D=Disagree; SD=Strongly Disagree; F=Frequency and %= Percentage

Table 36 summarizes teachers' responses on availability and adequacy of human resources for effective implementation of CBC. Pertaining to the assertion that schools have enough teachers for effective CBC curriculum implementation, majority (40.8%) of the respondents disagree with the assertion, while 20.6% of the respondents agree with the proposition. A small percentage of the respondents (6.4%) were undecided. However, 19.7% of the respondents strongly disagree and 11.9% strongly agree that there are enough teachers in schools to implement CBC in an effective manner. These findings are closely related with the study conducted by Wambua and Waweru (2019) who established that there were inadequate teachers to effectively implement CBC since most schools were understaffed. According to Teacher Service Commission (TSC) (2019) under staffing in the country has been caused by the budgetary constraints. Fortunately, Kenya has a large pool of trained teachers who are unemployed.

On the proposition that schools have adequate technical and support staff for effective implementation of CBC 42.2% of the respondents disagree with the statement, while 15.1% agree with the proposition. However, 26.6% strongly disagree compared to 6.9% of the respondents who strongly agree with the statement. However, 9.2% of the participants held no opinion. From the findings it is clear that there is insufficient technical and support staff in public primary schools. Most of the respondents (33.9%) agree with the claim that the teacher-to-student ratio has no bearing on how well CBC is implemented. Further, 10.6% strongly agree with the statement. However, 23.4% of the respondents strongly disagree that the teacher-to-student ratio has no bearing on the successful implementation of CBC. Additionally, 20.6% of the respondents highly disagree with this statement, and 11.5% held no views on the proposition. The study findings indicate that almost equal number of respondents agree and disagree at 44.5% agreeing and 44.0% disagreeing. However, Paulo (2014) claims that a high teacher-to-student ratio makes it difficult to execute a competence based curriculum effectively.

In terms of class sizes and effective implementation of CBC, most of the respondents (35.3%) agree that class sizes in their schools was conducive for effective implementation of competence based curriculum. This was contrary to 26.1% of the respondents who disagreed with the assertion.

Moreover, 13.3% of the respondents strongly disagreed that the class size was conducive for effective implementation of CBC, while 14.7% of the respondents strongly agreed with the proposition, further, 10.6% respondents held no opinion. The findings of the current study posit that class sizes were conducive for effective implementation of CBC, contrary to Hipolite (2019) establishment that teachers were handling large classes which was not conducive for successfully implementation of competence based curriculum.

Concerning the statement that teachers' work load was balanced for successful implementation of CBC. Majority (38.1%) of the respondents disagree with the statement. In addition, 28.4% of the respondents strongly disagree that teachers' work load was balanced for effective CBC implementation. However, 7.8% of the respondents strongly agreed with the proposition, while 19.7% of the respondents agreed with the statement, and 6.0% of the respondent gave no opinion. The findings correlate with Isobokey, Wambiri and Mweru (2021) argument that increased teacher work load affect negatively successful implementation of competence based curriculum.

4.6.3 The Extent Availability and Adequacy of Human Resource Affect Effective Implementation of CBC

The study also aimed to determine how respondents perceived the impact of teachers' availability and adequacy on effective implementation of competence based curriculum in Kenya's Tharaka Nithi County. A Likert scale was employed to measure the research variables in order to evaluate the respondents' agreement with the propositions. The scale variables were: Very great extent (5); Great extent (4); No opinion (3) Small extent (2); and No extent (1). Table 37 present the head teachers' responses.

Table 37: Head Teachers Responses on the Extent Availability and Adequacy of Human Resource Affect the Effective Implementation of CBC.

Aspects	VGE		GE		NO		SE		NE		Total %
	F	%	F	%	F	%	F	%	F	%	
Inadequate financial resources	61	56.0	30	27.5	4	3.7	10	9.2	4	3.7	100
A limited number of staff	44	40.4	36	33.0	9	8.3	18	16.5	2	1.8	100
High teacher-pupil ratio	29	26.6	41	37.6	16	14.7	19	17.4	4	3.7	100
High teacher turnover	22	20.2	38	34.9	20	18.3	24	22.0	5	4.6	100
The time allocated for the CBC lessons.	42	38.5	38	34.9	8	7.3	20	18.3	1	0.9	100

VGE=Very Great Extent; GE=Great Extent; NO=No opinion; SE= Small Extent; NE= No Extent; F=Frequency and %= Percentage

Table 37 contains responses from head teachers regarding the degree to which the availability and sufficiency of teachers affect the successful implementation of competence based curricula. When asked how much inadequate financial resources could impact on the successful implementation of CBC had, most of the respondents (56.0%) said that it has a very significant impact, while 27.5% said it has a significant impact. In contrast, 9.2% of the respondents' report that inadequate financial resources affect the effective implementation of CBC to a small extent and 3.7% indicated to no effect, while 3.7% held no opinion. These results are in harmony with those of Kiugu, Kibaara, and Wachira (2021), who found that public primary schools receive insufficient government capitation, hence, schools are unable to acquire the necessary facilities needed to successfully implement competence based curricular.

Most of the respondents (40.4%) say that the lack of staff severely hampers CBC's ability to be implemented effectively, while 33.0% say that it has a moderate to large impact. A small percentage of the respondents 1.8% indicate that a limited number of staff affect effective implementation of CBC to no extent. However, 16.5% of the respondents' state that a limited number of staff affect the effective implementation of CBC to a small extent, and 8.3% held no opinion. The findings concur with Wambua and Waweru (2019) postulation that government implemented CBC without addressing the issue of teacher shortage.

Hence, the issue of inadequacy of teachers should be looked into to ensure successful implement CBC curriculum. The results are in support with Ladd and Sorensen (2018) submission that inadequacy of teachers negatively affect students' performance and reduce teachers' effectiveness and quality of education. The findings are also in harmony with Kavindi's (2014) observation that inadequate staffing is one of the primary obstacles to a competence based curriculum's successful implementation.

Most of the respondents (37.6%), when asked about the impact of a high teacher-to-student ratio on the effective implementation of CBC, says that it has a significant impact. Another 26.6% submit that high teacher-pupil ratio has effect on effective CBC implementation to a very great extent. Further, 17.4% of the respondents indicate that the high teacher-pupil ratio affects the effective implementation of CBC to a small extent, and 3.7% state to no extent while 14.7% gave no opinion. The findings on this aspect are supported by Wadesango, Hove and Kurebwa (2016) argument that effective implementation of CBC is hampered by large teacher pupil ratio. Additionally, the results are in line with research by Odumbe, Simatwa, and Ayodo (2015) in the Migori district of Kenya on factors affecting students' performance in day secondary schools, which found that a lower teacher-to-student ratio improves students' academic performance. The same is supported by Mosha (2012) observation that class sizes pose a significant challenge to effective implementation of CBC since, CBC focus on the individual learner and not a group of learners.

Concerning high teacher turnover majority (34.9%) of the respondents stated that high teacher turnover affects effective implementation of CBC to a great extent. High teacher turnover does, however, impair the successful implementation of CBC to some extent, according to 22.0% of the respondents, while 20.2% of respondents claim it does so to a very considerable extent. While 18.3% held no opinion, and 4.6% indicated that high teacher turnover does not affect the effective implementation of CBC. From the findings 55.1% of the respondents indicate that high teacher turnover affects effective implementation of CBC negatively.

Furthermore, 38.5 percent of the respondents stated that time allocated for CBC class has a significant impact on how well CBC is implemented, while 34.9% of the respondents observed that time allocated for the CBC lessons affects the effective implementation of CBC to a great extent. A small number of the respondents (0.9%) stated that time allocated for CBC lessons affect effective CBC implementation to no extent. However, 18.3% of the respondents indicate that time allocated for the CBC lessons affect the effective implementation of CBC to a small extent, and 7.3% of respondents held no opinion. The findings are supported by Sitenei (2020) assertion that for effective implementation of CBC adequate time need to be allocated for CBC lessons.

The study also sought respondents' perception on the impact of availability and adequacy human resource affect successful implementation of competence based curriculum in Kenya's Tharaka Nithi County. The research variables are measured by a Likert scale to evaluate the respondents' agreement with the propositions. The scale variables were: Very great extent (5); Great extent (4); No opinion (3); Small extent (2); and No extent (1). Table 38 present the teachers' findings.

Table 38: Teachers' Responses on the Extent Availability and Adequacy of Teachers Affects Effective Implementation CBC

Aspects	VGE		GE		NO		SE		NE		Total %
	F	%	F	%	F	%	F	%	F	%	
Inadequate financial resources	94	43.1	69	31.7	19	8.7	27	12.4	9	4.1	100
A limited number of staff	48	22.0	81	37.2	25	11.5	46	21.1	18	8.3	100
High teacher-pupil ratio	44	20.2	71	32.6	33	15.1	46	21.1	24	11.0	100
High teacher turnover Time allocated for CBC lessons	37	17.0	68	31.2	42	19.3	48	22.0	23	10.6	100
	86	39.4	66	30.3	15	6.9	31	14.2	20	9.2	100

VGE=Very Great Extent; GE=Great Extent; NO=No opinion; SE= Small Extent; NE= No Extent; F=Frequency and %= Percentage

Table 38 summarizes teachers' responses on the extent availability and adequacy of teachers affect effective implementation of CBC. Regarding the extent to which inadequate financial resources affect the effective implementation of CBC, majority (43.1%) of the respondents opined that inadequate financial resources affect the effective implementation of CBC to a very great, while 31.7% of the respondents indicated that it affects effective implementation of CBC to a great extent. Further, 12.4% asserted that inadequate financial resources affect effective implementation of CBC to a small extent, while 4.1% indicated that the effect was to no extent and 8.7% of the respondents gave no opinion. The findings agree with Acquah, Frimpong and Kwame (2017) establishment that insufficient financing was one of the challenges that affected effective implementation of Competence Based Training (CBT) curriculum in Ghana. Inadequate funding poses a challenge to effective implementation of CBC. Therefore, adequate financing of competence based curriculum is a prerequisite for successful implementation of competence based curriculum.

On the effect of the limited number of staff on the effective implementation of CBC majority (37.2%) of the respondents reported that limited number of staff affect the effective implementation of CBC to a great extent and 22.0% indicated that the effect is to a very great extent. In addition, 8.3% of the respondents stated that a limited number of staff has no effect on effective implementation of CBC. In contrast 21.1% of the respondents indicated the effect was to a small extent, and 11.5% gave no opinion. The findings reveal that 59.2% of the respondents induced that limited number of teachers affected effective implementation of CBC negatively. The findings agree with Joyce, Kosgei and Kitainge (2014) establishment that schools experience limited number of teachers, and such schools use different methods to cope with the situation such as employing temporary teachers, hiring untrained teachers, overloading classes. All these strategies affect effective implementation of a curriculum.

Regarding the effect of a high teacher-pupil ratio on the effective implementation of CBC majority (32.6%) of the respondents observed that a high teacher-pupil ratio affects the effective implementation of CBC to a great extent. While 21.1% saw high teacher-pupil ratio affected effective CBC implementation to a small extent. However, 15.1% of the respondents indicated high teacher-pupil ratio affected effective CBC

implementation to no extent. Further, 11.0% and 20.2% of the indicate that the high teacher-pupil ratio affected the effective implementation of CBC to no extent and to a very great extent respectively. The findings concur with Marion (2020) postulation that large class size was a major challenge affecting successful implementation of competence based curriculum in public primary schools.

The majority of the respondents (31.2%) regarded the impact of high teacher turnover on the successful implementation of CBC to a great extent. However, 22.0%, of the respondents claimed that the impact of excessive teacher turnover on the success of CBC is only marginal. But according to 10.6% of the respondents' effective implementation of CBC is unaffected by substantial teacher turnover. Additionally, 19.3% of the respondents did not express an opinion, while 17.0% believe that the high teacher-to-student ratio has a significant impact on the effective implementation of competence based curriculum.

According to the results, 39.4% of the respondents infer that the amount of time allocated for CBC classes has a significant impact on how effectively CBC is implemented. However, 30.3% of the respondents posit that time allocated for CBC lessons affects effective implementation of CBC to a great extent. Further, 9.2% of the respondent state time allocated for CBC lessons affected effective CBC implementation to no extent. Additionally, 14.2% of the respondents indicate that time allocated for the CBC lessons affected the effective implementation of CBC to a small extent, and 6.9% held no opinion. The findings of the current study are in harmony with Amunga, Were and Ashioya (2020) observation that teachers need more time to prepare CBC lessons. Thus, more time is required for successful infusing competence based curriculum skills to learner.

4.6.4 Testing Hypothesis H₀₂:

There is no statistically significant relationship between the adequacy of human resources and the effective implementation of a Competence Based Curriculum in Tharaka Nithi County, Kenya. The researcher sought to establish the correlation between adequacy of human resources and effective implementation of competence

based curriculum. The regression summary model, Simple linear regression correlation coefficient and correlation tests are presented in this section.

4.6.4.1 Simple Linear Regression

The second objective of this study was to ascertain the connection between adequate human resources and successful competence based curriculum implementation in Tharaka Nithi County, Kenya. To assess the relationship between the adequacy of human resources and effective implementation of competence based curriculum, the following hypothesis was tested. Ho₂: There is no statistically significant relationship between the adequacy of human resources and the effective implementation of a Competence Based Curriculum in Tharaka Nithi County, Kenya. linear regression analysis was done to establish the percentage of variation that was explained by independent variable in the model. The adequacy of human resources was regressed against the effective implementation of competence based curriculum. Head teachers' results are shown in Table 39.

Table 39: Head Teachers Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.489 ^a	.239	.222	.88817

a. Predictors: (Constant), A.H.R

Table 39 show that adequacy of human resource had influence on effective implementation of competence based curriculum. The R has a value is 0.489 and the R Square which is the correlation between the observed and predicted values of dependent variable is 0.239. This value indicates that 23.9% of the variance in the effective implementation of competence based curriculum can be predicted from the variable AHR, this suggest that approximately 23.9% of the variance is explained by the model. Adjusted R Square is a predictor added to the model, each predictor explains some of the variance in the dependent variable were simply due to chance. The value of Adjusted R Square is 0.222. The model's performance is measured by a standard error of the estimate of 0.88817. The results postulate that sufficient human resource contributes to successful implementation of competence based curriculum. The researcher further did linear regression analysis for teachers to establish the percentage

of variation that was explained by independent variable in the model. Teachers findings are presented in Table 40.

Table 40: Teachers Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.348 ^a	.121.	.219	.85870

a. Predictors: (Constant), ahr

Table 40 indicate that adequate human resource had influence on effective implementation of competence based curriculum. R has a value of 0.348 while R Square has a value of 0.121 indicates that approximately 12.1% of the variability in the dependent variable is explained by the independent variable (AHR). The adjusted R Square, which takes into account the number of predictors, is 0.219. The standard error of the estimate is 0.85870, signifying the average discrepancy between observed values and those predicted by the model. The results reveal that adequate human resource contributes to effective implementation of competence based curriculum.

Further, in relation to the second objective, Simple linear regression coefficient analysis was computed to test hypothesis two. The adequacy of human resource was regressed against the effective implementation of competence based curriculum. Head teacher's results are shown in Table 41.

Table 41: Simple Linear Regression Coefficient for Head Teachers

Model	Coefficients ^a						
	Unstandardized Coefficients		Standardized Coefficients Beta	T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error				Lower Bound	Upper Bound
(Constant)	2.864	.193		14.861	.000	2.482	3.246
A.H.R	.123	.066	.177	1.864	.065	-.008	.254

a. Dependent Variable: EFFECTIVE CBC

Table 41 summarizes the head teachers' linear regression coefficient results. The regression intercept labeled 'constant' took a value of 2.864. It represents the predicted value of independent variable when the independent variable has a zero value. The regression slope or unstandardized coefficient (B in SPSS) takes the value 0.123 for adequacy of human resource. These were the changes in the dependent variable because

of an increase in the independent variable of one unit. As a result, 100% increase in human resources will result in a 12.3% rise in the CBC's ability to be implemented effectively. The t-value for enough human resources is 1.864, with a p-value of 0.065, which is higher than 0.05. The null hypothesis is kept. Therefore, in Tharaka Nithi County, there is no statistically significant relationship between the sufficiency of human resources and the successful adoption of a competence based curriculum. Hence, the null hypothesis is accepted. These findings are in harmony with the TSC sub county director's indications that public primary schools in Tharaka Nithi County had adequate teachers. The Simple Linear Model for the head teachers' responses is: $Y = 2.864 + 0.123X$ where Y is the dependent variable (Effective Implementation of CBC) X is the independent variable (Adequacy of Human Resources). 2.864 is the constant.

The researcher further sought Simple linear regression coefficient for teachers by testing hypothesis two. The adequacy of human resources was regressed against the effective implementation of competence based curriculum. Teacher's findings are presented in Table 42.

Table 42: Simple Linear Regression Correlation Coefficient for Teachers

Model	Unstandardized Coefficients		Coefficients ^a		T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Standardized Coefficients	Beta			Lower Bound	Upper Bound
1 (Constant)	20.144	.828			24.323	.000	18.511	21.776
a.h.r	.124	.054	.154		2.287	.023	.017	.231

a. Dependent Variable: EFFECTIVE CBC

Table 42 shows Simple linear regression results for teachers, the regression intercept labeled 'constant' took a value of 20.144. It represents the predicted value of independent variable when the independent variable has a zero value. The regression slope or unstandardized coefficient (B in SPSS) takes the value 0.124 for adequacy of human resource. These were the changes in the dependent variable as a result of an increase in the independent variable of one unit. As a result, 100% increase in human resources will result in a 12.4% rise in the CBC's ability to be implemented effectively. The t-value for enough human resources is 2.287 at a p-value higher than 0.05 of 0.023. The null hypothesis was therefore kept. Marais (2016) established that large class size

which could have resulted due to inadequate teachers makes teaching and-learning interactions difficult for both teachers and students. These findings agree with Wadesango, Hove and Kurebwa (2016) observation there is a relationship between adequacy of human resource for teachers handling small class size are able to supervise and manage the learners with easy while those teachers handling large class size are overburden.

From the study, the adequacy of human resources was positive but insignificant to the effective implementation of CBC for the head teachers but, the teachers indicated a statistically significant relationship between the adequacy of human resources and the effective implementation of a competence based curriculum in Tharaka Nithi County. The findings of the current study concur with Nwaka and Ofojebe (2010), observation that teachers are at the practical level and the foundational resources that are pivotal in implementing and realizing educational policies and objectives. The study observation indicates that adding the number of teachers promotes effective implementation of CBC. Consequently, teacher adequacy is worth considering because human resource plays a crucial role in curriculum implementation. The Simple Linear Model for the teachers' responses is: $Y = 20.144 + 0.124X$ Where Y is the independent variable (Effective Implementation of CBC) X is the independent variable (Adequacy of Human Resources. 20.144 is the constant

4.6.4.2 Correlation between Adequacy of Human Resources and the Effective Implementation of CBC

The correlation between the dependent variable and the independent variables is examined in this section. The study used the Pearson correlation test to determine whether there was a connection between enough human resources and successful CBC implementation.

The goal of the study was to determine if adequate human resources and successfully implementing a competence based curriculum were related. The head teachers result of correlation of adequacy of human resources and effective implementation of CBC are shown in Table 43.

Table 43: Correlation for Head Teachers'

		Effective CBC	A.H.R
Effective CBC	Pearson Correlation	1	.177
	Sig. (2-tailed)		.065
A.H.R	Pearson Correlation	.177	1
	Sig. (2-tailed)	.065	

a. Listwise N=109

Table 43 summarizes head teachers' findings on the correlation between adequacy of human resources and effective implementation of competence based curriculum. The study established Pearson correlation coefficient value of 0.177, which was not significant at 0.05 level of significance because its p value is 0.065. There is a weak positive relationship between effective CBC implementation and the adequacy of the human resources. The researcher further computed correlation coefficient from the teachers' data to establish whether there was a correlation between adequacy of human resources and effective implementation of competence based curriculum. Table 44 presents the findings.

Table 44: Correlation for Teachers

		Correlations	
		Effective CBC	a.h.r
Effective CBC	Pearson Correlation	1	.154*
	Sig. (2-tailed)		.023
	N	218	218
a.h.r	Pearson Correlation	.154*	1
	Sig. (2-tailed)	.023	
	N	218	218

*Correlation is significant at the 0.05 level (2-tailed).

Table 44 summarizes teachers' findings on the correlation between adequacy of human resources and effective implementation of competence based curriculum. The Pearson correlation coefficient gave a value of 0.154, which is significant at 0.05 level of significance because its p value is 0.023. There is positive relationship between effective CBC implementation and the adequacy of the human resources. Therefore, from the study findings there is a positive weak relationship between adequacy of human resource and effective implementation of competence based curriculum. These findings are in agreement with Hipolite (2019) observations that handling large classes was not conducive for successfully implementation of competence based curriculum.

4.6.5 Strategies to Enhance Adequacy of Human Resources

The study sought the respondents' opinions on how to improve adequacy of human resources in public primary schools in Tharaka Nithi County. Respondents gave suggestions in open ended questions of the questionnaire. The strategies suggested were thoroughly read and segmented into coherent themes points, under every theme were discussed in order of the frequencies with which they were raised. Table 45 present head teachers' suggestions.

Table 45: Head Teachers Responses on Strategies to Enhance Adequacy of Human Resources

Strategies	Head teacher	
	F	%
Recruitment of more teachers	86	78.9
Hiring of support/technical staff	17	15.6
Salary increments for teachers	12	11.0
More financial allocation to schools	10	9.2
Reduction of CBC learning areas	3	2.7

Table 45 summarizes head teachers' suggestions on how to enhance adequacy of human resource in public primary schools in Tharaka Nithi County. Majority (78.9%) of the respondents averred that hiring of more teachers could heighten adequacy of human resource in schools. This suggestion is supported by Kanyoga and Mtana (2019) who identified insufficient teachers as one of the major hindrances for successful implementation of competence based curriculum. Further, 15.6% of the respondents stated that hiring of support and technical staff could improve adequacy of human resource in public primary schools. Additionally, 11.0% of the participant induced that salary increment for teacher could improve adequacy of human resource for effective implementation of CBC. Moreover, 9.2% of the respondent suggested more financial allocation to schools, while 2.7% of the respondents postulated that reduction of the CBC learning areas could help in attaining adequate human resources. The study further sought teacher's suggestions on strategies that could help to enhance adequate teachers in public primary schools in Tharaka Nithi County. The respondents were required to give their suggestions in the open-ended items of the questionnaire. Table 46 show teacher's responses.

Table 46: Teachers Responses on Strategies to Enhance Adequacy of Human Resources

Strategies	Teachers	
	F	%
Recruitment of more teachers	148	67.9
Hiring of support/technical staff	23	10.6
Salary increments for teachers	15	6.9
More financial allocation to schools	12	5.5
Reduction of CBC learning areas	11	5.0

Table 46 presents respondent’s opinions on the ways adequacy of human resources could be enhanced in public primary schools. According to the study, 67.9% of the respondents believe that the government should hire more teachers in order to maintain an appropriate supply of teachers in public elementary schools. Furthermore, 10.6% of the respondents propose recruiting technical or support workers as a remedy for insufficient human resources. Further, 6.9% of the respondents stated that salary increment for teacher could enhance adequacy of human resource in schools. Meanwhile 5.5% of respondents observed that teacher motivation would promote adequacy of teachers in public primary schools.

On this suggestion Mwendwa (2018) averred that government had not motivated teachers enough to integrate digital literacy to learners. This implies that teachers were not fully appreciated. Another 5.0% suggest that availing a conducive teaching environment could enhance adequacy of human resources in public primary schools in Tharaka Nithi County.

4.7 Human Resource Competencies and Effective Implementation of CBC

4.7.1 Introduction

This section presents the findings of the third objective of this study that was to determine the relationship between human resource capabilities and successful competence based curriculum implementation in various categories of primary schools in Tharaka Nithi County, Kenya. The relationship between human resource competencies and the successful implementation of competence based curriculum is also examined in this section. The research instrument addressed human resource competencies to measure the effectiveness of implementing CBC and the extent human resource competencies affect effective implementation of CBC. The part also examines

the connection between human resource competencies and successful competence based curriculum implementation.

4.7.2 Competence of Human Resources and Effective Implementation of Competence Based Curriculum

Information was sought regarding competence of human resources and effective implementation of CBC. The research instrument addressed several aspects of human resources that could measure their competencies for effective implementation of competence based curriculum. The research variables were measured by a Likert scale to evaluate the respondents' agreement with the propositions. The scale variables were: Strongly agree (5); Agree (4); No opinion (3); Disagree (2); and Strongly disagree (1). Table 47 displays the head teachers' opinions on the human resources' competencies.

Table 47: Head Teachers' Responses on Teacher Competencies and Effective CBC Implementation.

Statement	SA		A		NO		D		SD		Total %
	F	%	F	%	F	%	F	%	F	%	
Teachers were adequately prepared for the CBC curriculum	0	0	22	20.2	6	5.5	51	46.8	30	27.5	100
Teachers were adequately trained on how to use digital devices in teaching e.g., computers, smartphones, tablets, laptops	0	0.0	7	6.4	7	6.4	59	54.1	36	33.0	100
Teachers in my school understand CBC evaluation techniques	4	3.7	48	44.0	15	13.8	37	33.9	5	4.6	100
The teachers can draw effective CBC lesson plans	6	5.5	72	66.1	7	6.4	17	15.6	7	6.4	100
Teachers can prepare scheme of work for the CBC curriculum	4	3.7	75	68.8	10	9.2	17	15.6	3	2.8	100
The school has enough financial resources to support the CBC curriculum	5	4.6	4	3.7	5	4.6	42	38.5	53	48.6	100
Teachers are well equipped with assessment criteria for CBC	1	0.9	32	29.4	13	11.9	47	43.1	16	14.7	100
Teachers are well-trained in learning areas for CBC	3	2.8	47	43.1	15	13.8	35	32.1	9	8.3	100
Teachers are well-trained on how to engage parents for effective CBC implementation	2	1.8	40	36.7	15	13.8	36	33.0	16	14.7	100

SA= Strongly Agree; A=Agree; U=Undecided; D=Disagree and SD=Strongly Disagree, F=Frequency and %= Percentage

Table 47 shows information on the responses on the competencies of teachers and effective implementation of competence based curriculum. A majority of the respondents (46.8%) disagree with the claim that instructors were sufficiently prepared for the successful implementation of CBC. Furthermore, 27.5% of other participants strongly disagree, while 5.5% of the respondents had no opinion on the proposition. However, 20.2% of the respondents agree that teachers were adequately prepared for CBC implementation, while none of the respondents agreed very strongly with the assertion. The results of this study agree with Chemagosi's (2020) claim that teachers in lower public primary schools in Kilifi and Nandi lacked the necessary preparation to successfully execute the CBC curriculum. TSC sub county directors also agree with this assertion but stated that there has been continuous training of teachers since the inception of CBC curriculum by various agencies such as TSC, KICD, KNEC, SMASSE among others. This implies that teachers need to be well prepared with the necessary competencies to adequately implement CBC curriculum effectively.

On the statement that teachers were adequately trained on how to use digital devices in teaching and learning 54.1% of the respondents disagree with the statement, while 33.0% strongly disagree. However, a small percentage (6.4%) of the respondents agree with the proposition. Further, 6.4% held no opinion. Lastly, none of the respondents very strongly agreed with the proposition. These findings from the current study are supported by Odumbe, Simatwa and Ayodo (2015) observations that majority (75%) of teachers in public schools were not competent enough in use of ICT. Digital literacy requires that all the teachers and learners be conversant with all aspects of digital literacy learning.

Concerning the aspect of teachers understanding CBC evaluation techniques 44.0% of the respondents agree that teachers understood CBC evaluation techniques. However, 33.9% of the respondents disagree with the assertion. On contrast, 3.7% of the respondents strongly agree while 4.6% strongly disagree, and 13.8% held no opinion. These findings differ with Adewusi, Airinola and Ogegbo (2020) revelation that teachers rarely used CBC recommended assessment methods, most teachers employed traditional assessment methods.

This was also confirmed by Andiema (2020) study conducted to assess teacher's competence in evaluation of CBC among special needs learners in Kenya, the findings observed that majority of the of the teachers in special needs institutions were not adequately prepared to evaluate and assess learners in special institution following the CBC guidelines.

Concerning the proposition on whether teachers can draw effective CBC lesson plans, majority (66.1%) of the participants agree, in contrast to 15.6% who disagree with the assertion. Only 5.5% of the respondents strongly agree that teachers could draw effective CBC lesson plans while 6.4% strongly disagree and another 6.4% held no opinion. The results of this study disagree with Chemagosi's (2020) claim that instructors in lower public primary schools in Kilifi and Nandi lacked the necessary preparation to successfully execute the CBC curriculum. This argument is supported by Rutere and Njeru (2019) assertion that teachers had challenges in preparing competence based curriculum lesson plan. The same argument is supported by Kyulilo (2012) observation that teachers were not able to write competence based curriculum lesson plan.

In regard to the assertion that teachers can prepare scheme of work for effective CBC implementation 68.8% of the respondents agreed that teachers can prepare schemes of work for effective CBC implementation. A small number of the respondents 3.7% strongly agree with the assertion. However, 15.6% of the respondents disagree, and 2.8% strongly disagree respectively that teachers could prepare schemes of work for CBC implementation, while 9.2% of the respondents held no opinion. The findings on this aspect reveal that 72.5% of the respondents agreed that teachers can prepare CBC scheme of work effectively.

On the proposition that schools had enough financial resources to support CBC implementation the study findings observed that 48.6% of the participants strongly disagreed with the assertion, while 38.5% of the respondents disagreed which was against 3.7% of the respondents who agreed, and 4.6% who strongly agreed that schools had adequate financial resources to support CBC implementation, more so, 4.6% of the respondents held no opinion.

The results of this study are supported by Kiugu, Kibaara, and Wachira's (2021) views that the government's capitation payments to schools was insufficient to enable schools provide sufficient teaching and learning resources to support the efficient implementation of the CBC curriculum. Similarly, research by Sisungu, Keberia and Buhrere (2014) an inquiry on the association between performance of KCSE and the school level of funding in Mumias District, Western Province, Kenya postulated that there was a significant association between learner's performance and the school level of funding. Hence, schools should be adequately funded to ensure successful implementation of CBC curriculum.

Concerning the assertion that teachers are well equipped with assessment criterion for effective CBC implementation majority (43.1%) of the respondents disagreed, while 14.7% strongly disagreed with the statement. However, 29.4% of the respondents agreed, and only 0.9% strongly agreed that the teachers were well equipped with the assessment criterion for effective CBC implementation. Moreover, 11.9% of the respondents had no opinion. The results show that 57.8% of the respondents disagreed with the claim that teachers had the necessary tools to implement CBC in an efficient manner. This argument is in line with Hakielimu's (2012) assertion that teachers rarely use the suggested CBC evaluation methods, including project work, practical assignments, and report writing when evaluating students.

On the statement that teachers are well trained in competence based curriculum learning areas for effective implementation of CBC 43.1% of the respondents agreed that teachers were well trained in the learning areas for CBC. However, 32.1% of the participants disagreed that the teachers were well trained in CBC learning areas. Moreover, 2.8% respondents strongly agreed with the proposition, while 8.3% strongly disagreed, and 13.8% of the respondents gave no opinion. The study established that 45.9% of the respondents agreed that instructors had received adequate training in learning domains to adequately execute the CBC curriculum, as opposed to 40.4% who had differing opinions. The results of the current study differ from those of KNUT (2019), which found that CBC was introduced when most instructors lacked adequate training in its content, assessments, and instructional strategies.

The findings of this study are emphasized by Chemagosi (2020) postulation that teacher training significantly contributes to effective implementation of competence based curriculum, so, for effective implementation of CBC teacher training should be emphasized.

On the assertion that teachers are well trained on how to engage parents for effective implementation of CBC majority (36.7%) of the respondents agreed, while 33.0% disagreed with the assertion. There were a small number 1.8% of the respondents who strongly agreed and at the same time 14.7% of the respondents strongly disagreed that teachers were trained on how to engage parents for effective implementation of CBC, while 13.8% gave no opinion. Almost equal number of the respondents agreed and disagreed respectively at 38.5% agreeing and 47.7% disagreeing. The results of the current study are in harmony with Otieno and Onyango (2019), argument that competence based curriculum came with new costs that necessitate parental engagement, particularly in the supply of infrastructure and teaching and learning materials to allow the effective implementation of the curriculum. As a result, parents must be included in the implementation of competence based curriculum.

The study sought respondents' perception on the impact of teachers' competencies and successful implementation of competence based curriculum in Kenya's Tharaka Nithi County. The research instrument addressed several aspects that could measure the human resource competencies for effective of implementation of CBC. The research variables are measured by a Likert scale to evaluate the respondents' agreement with the propositions. The scale variables were: Strongly agree (5); Agree (4); No opinion (3); Disagree (2); and Strongly disagree (1). Table 48 present the teachers' opinions on the human resources' competencies for effective implementation of competence based curriculum.

Table 48: Teachers' Responses on Perceived Teacher Competencies and Effective CBC Implementation

Statement	SA		A		NO		D		SD		Total %
	F	%	F	%	F	%	F	%	F	%	
Teachers were adequately prepared for the CBC curriculum	9	4.1	36	16.5	21	9.6	92	42.2	60	27.5	100
Teachers were adequately trained on how to use digital devices in teaching, e.g., computers, smartphones, tablets, laptops	8	3.7	30	13.8	20	9.2	96	44.0	64	29.4	100
Teachers in my school understand CBC evaluation techniques	12	5.5	75	34.4	34	15.6	72	33.0	25	11.5	100
The teachers can draw effective CBC lesson plans	20	9.2	102	46.8	37	17.0	46	21.1	13	6.0	100
Teachers can prepare scheme of work for the CBC curriculum	21	9.6	108	49.5	32	14.7	46	21.1	11	5.0	100
The school has enough financial resources to support the CBC curriculum	11	5.0	10	4.6	16	7.3	94	43.1	87	39.9	100
Teachers are well equipped with assessment criteria for CBC	13	6.0	53	24.3	25	11.5	86	39.4	41	18.8	100
Teachers are well-trained in learning areas for CBC	15	6.9	70	32.1	27	12.4	76	34.9	30	13.8	100
Teachers are well-trained on how to engage parents for effective CBC implementation	15	6.9	51	23.4	28	12.8	90	41.3	34	15.6	100

SA= Strongly Agree; A=Agree; NO= No Opinion; D=Disagree and SD=Strongly Disagree, F=Frequency and %= Percentage

Table 48 summarizes teachers' responses on teacher's competencies and effective implementation of competence based curriculum. In regard to the assertion that teachers were adequately prepared for effective implementation of CBC. Majority (42.2%) of the respondents disagreed with the assertion. More so, 27.5% of the respondents strongly disagreed with the statement that teachers were adequately prepared for effective implementation of CBC. However, 4.1% of the respondents strongly agreed with the proposition, while 16.5% of the respondents agreed that teachers were adequately prepared for effective implementation of CBC, and 9.6% had no opinion. These results are consistent with a study by Ondimu (2018) on teachers' readiness for CBC implementation in private pre-primary schools in Dagoreti, Nairobi, Kenya, which found that 66.6% of teachers lacked the necessary skills to successfully apply in the implementation of competence based curriculum. The findings are also supported by Kanyonga, Mtana and Wendt (2019) revelation that teacher preparation is critical in enhancing effective implementation of CBC.

Concerning the statement that teachers were adequately trained on how to use digital devices in teaching majority (44.0%) of the respondents disagreed with the assertion, and still 29.4% strongly disagreed that teachers were adequately trained on how to use digital devices in teaching. However, 3.7% of the respondents strongly agreed with the proposition, while 13.8% agreed and 9.2% gave no opinion. The results of this study agree with a study by Ondimu (2018) on teachers' readiness for implementing competence based curriculum, which found that while most teachers had attended in-service training on implementing CBC, they lacked adequate preparation in using digital tools in the classroom. These findings are supported by KICD (2018) report that indicated that 67% of teachers had not been trained on ICT application in teaching and learning. These findings from the current study are also affirmed by Njeru and Itegi (2018) observation that teachers lacked adequate skills to handle digital literacy.

In regard to the assertion that teachers understand CBC evaluation techniques 33.0% of the participants disagreed with the assertion while 11.5% strongly disagreed. However, 34.4% of the respondents agreed with the proposition and additionally, 5.5% of the respondents strongly agreed. Moreover, 15.6% of the respondents held no opinion. The result indicates that 44.5% of the respondents disagreed with the statement while 39.9%

agreed. These findings are supported by Paulo (2014) argument that teachers used traditional assessment methods instead of the recommended competence based curriculum assessment approaches, teachers are expected to use authentic and performance based approaches when assessing CBC learners.

On whether teachers can draw effective CBC lesson plans for effective implementation of CBC 46.8% of the participants agreed with the assertion, while 21.1% of the respondents disagreed with the statement. In addition, 6.0% of the respondents strongly disagreed with the proposition, while 9.2% of the respondents strongly agreed that teachers have the ability to draw effective CBC lesson plans, and 17.0% of the respondents had no opinion. According to the research, 56.0% of the respondents postulated that they could create an effective CBC lesson plan. This result disagrees with findings from a research by Komba and Mwandanje (2015) on the implementation of CBC in secondary schools in Tanzania, which showed that 78% of teachers lacked the necessary abilities to create lesson plans that complied with the competence based curriculum's requirements.

Concerning the proposition that teachers had the ability to prepare CBC scheme of work, majority (49.5%) of the respondents agreed that teachers could prepare effective CBC scheme of work, while 21.1% disagreed with the proposition and 5.0% of the respondents strongly disagreed, further, 9.2% of the respondents strongly agreed with the assertion. However, 14.7% held no opinion on the assertion. The findings of the current study differ with Momanyi and Rop (2019) study on teacher's capacity to develop instructional tools by inducing that 69% of the teachers had challenges in preparing effective scheme of work that conform to the CBC requirements.

The results reveal that most of the participants (43.1%) disagreed with the claim that schools had adequate financial resources to facilitate the efficient implementation of CBC. Further, 39.9% of the respondents strongly disagreed with the assertion. On contrast, 5.0% of the respondents strongly agreed, while 4.6% of the respondents agreed, and 7.3% gave no opinion. The finding establishes that 83.0% of the respondents indicated that schools lacked adequate financial resources to effectively implement CBC curriculum.

The finding concurs with Wambua and Waweru (2019) argument that schools had not been provided with adequate financial support to facilitate successful implementation of CBC. Successful application of CBC needs adequate funding to support CBC activities and programs.

Further, on the assertion that teachers were well equipped with competence based curriculum assessment criterion 39.4% of the respondents disagreed with the assertion, while 18.8% strongly disagreed. However, 11.5% of the respondents had no opinion. Moreover, 24.3% of the respondents agreed with the assertion, and 6.0% strongly agreed. The findings on the current study concur with Andiemba (2020) argument that teacher's competencies in evaluating and assessing learners was average. This claim is consistent with Njagi (2020) study which examined the influence of teacher preparation on the implementation of a competence based curriculum in public primary schools in Kiambu County, Kenya. The study findings concluded that teachers needed in-service training on the subject of the assessments used in competence based curricula.

On the assertion that teachers were well trained in the CBC learning areas for effective implementation of competence based curriculum, majority (34.9%) of the respondents disagreed with the assertion. More so, 13.8% strongly disagreed. However, 32.1% of the participants agreed that the teachers were well trained in CBC learning areas, while 6.9% of the respondents strongly agreed with the proposition. Further, 12.4% of the respondents held no opinion. These results are in harmony with study findings by Komba and Mwandangi (2015) who found that 86% of the teachers lacked a proper understanding of the curriculum objectives. As a result, teachers need to be trained in all CBC subject areas for them to develop the necessary skills as outlined in the CBC curriculum guidelines.

On the proposition that teachers are well trained on how to engage parents for effective CBC implementation majority (41.3%) of the respondents disagreed with the statement, and 15.6% strongly disagreed with the proposition. However, 23.4% of the respondents agreed that teachers are well trained on how to engage parents for effective CBC implementation and 6.9% strongly agreed, while 12.8% had no opinion.

The findings induce that 56.9% of the respondents were not trained on how to engage parents in the implementation of CBC. Lack of parental engagement in the implementation of CBC affect negatively on the implementation of CBC. One of the sub county directors of education argued vehemently that parents must be considered in the adoption of a competence based curriculum.

4.7.3 Ability and Preparedness to Infuse CBC Competencies into Learners.

The study also aimed to determine how well equipped and capable the head teachers and teachers were to impart CBC competencies to the students. The variables were measured by a Likert-type scale to evaluate the extent to which the respondents agreed with the proposition of infusing CBC competencies into the learners. The scale values were Very great extent (5); Great extent (4); No sure (3); Small extent (2); and No extent (1). The frequency and percentage results of the head teachers' respondents are shown in Table 49.

Table 49: Head Teachers' Responses on the Ability and Preparedness to Infuse CBC Competencies into Learners.

Aspects	VGE		GE		NS		SE		NE		Total %
	F	%	F	%	F	%	F	%	F	%	
Communication and Collaboration	7	6.4	61	56.0	7	6.4	31	28.4	3	2.8	100
Critical thinking and problem-solving	7	6.4	49	45.0	14	12.8	31	28.4	8	7.3	100
Imagination and creativity	9	8.3	44	40.4	11	10.1	38	34.9	7	6.4	100
Citizenship	15	13.8	49	45.0	11	10.1	25	22.9	9	8.3	100
Learning to learn	8	7.3	49	45.0	12	11.0	35	32.1	5	4.6	100
Self-efficacy	9	8.3	52	47.7	18	16.5	25	22.9	5	4.6	100
Digital literacy	7	6.4	18	16.5	18	16.5	61	56.0	5	4.6	100

VGE=Very Great Extent; GE= Great Extent; NS= Not Sure; SE=Small Extent; NE=No Extent F=Frequency and %= Percentage

Table 49 summarizes head teacher's responses on the ability and preparedness of teachers to infuse CBC competencies to learners. Regarding the head teacher's responses on the ability and preparedness of teachers to infuse communication and collaboration competencies to learners, majority (56.0%) of the respondents rated the ability and preparedness to a great extent, while 6.4% of the respondents rated the

ability and preparedness to a very great extent. However, 28.4% of the respondents stated the ability and preparedness to infuse communication and collaboration to a small extent, while 2.8% of the respondents were not sure and 6.4% held no opinion. The findings established that 62.4% of the respondents have the ability to infuse communication and collaboration competencies to the learners. The findings disagree with Waweru (2018) observation that teachers needed assistance to infuse communication and collaboration competencies. On teachers' ability and preparedness to infuse critical thinking and problem-solving competencies, majority (45.0%) of the respondents rated the ability to a great extent, while 28.4% rated the ability and preparedness to a small extent. However, 7.3% indicated the ability and preparedness to infuse critical thinking and problem-solving to no extent. Further, 6.4% of the respondents asserted the ability and preparedness to infuse critical thinking and problem-solving to a great extent while 12.8% of the respondents were not sure. The findings opined that 51.4% of the respondents have the ability and are prepared to infuse critical thinking and problem-solving competencies to the learners. The findings depart from Waweru (2018) observations that teacher require assistance in infusing critical thinking and problem solving to learners.

Regarding the ability and preparedness of the teachers to infuse imagination and creativity in the learners 40.4% of the respondents reported that teachers had the ability and were prepared to a great extent, while 34.9% indicated the ability and preparedness to a small extent. More so, 8.3% of the respondents indicated the ability and preparedness to a very great extent. However, 6.4% indicated the ability and preparedness to no extent, and 10.1% were not sure. The findings in the current study indicated that 48.7% of the respondents have the ability to infuse imagination and creativity competencies to the learners, this implies that 51.4s% of respondents need assistance to infuse imagination and creativity in the leaners. This finding favorably compares with Waweru (2018) postulation that 50% of teachers required assistance to infuse imagination and creativity competencies to the learners.

On the ability and preparedness among the respondents to infuse citizenship to learners' majority (45.0%) of the respondents rated the ability and preparedness to infuse citizenship to learners to a great extent, while 22.9% of the respondents stated the ability

and preparedness to a small extent, and 8.3% rated to no extent. However, 13.8% of the respondents indicated the ability and preparedness to infuse citizenship to a very greatly extent, while, 10.1% of the respondents were not sure. The findings established that 58.8% of the respondents have the ability to infuse citizenship competencies to the learners.

On the ability and preparedness of the teachers to infuse learning to learn competencies to the learners 45.0% of the respondents rated the ability and preparedness to a great extent, while 32.1% indicated to a small extent. Further, 4.6% indicated the ability to no extent, while 7.3% rate the ability and preparedness to infuse learning to learn to a very great extent, and 11.0% of the respondents were not sure. The findings indicated that 52.3% of the respondents have the ability to infuse learning to learn competencies to the learners.

Concerning ability and preparedness to infuse self-efficacy to the learners 47.7% of the respondents reported having the ability and preparedness to infuse self-efficacy among learners to a great extent, while 22.9% indicated the ability and preparedness to a small extent. However, 16.5% of the respondents were no sure, and 4.6% stated that the ability and preparedness to infuse self-efficacy to no effect. Further, 8.3% of the respondents rated the ability and preparedness to infuse self-efficacy to a very great extent. The findings indicated that 56.0% of the respondents could infuse self-efficacy competencies to the learners.

Regarding the ability and readiness to instill digital literacy among learners, majority (56.0%) of the respondents' report having only a limited capacity for doing so, while 16.5% of the respondents claim to have strong capacity for doing so. However, 16.5% of the respondents were not sure whether they have the ability and are prepared to infuse digital literacy into learners. In addition, 4.6% of the respondents stated that the ability and preparedness to infuse digital literacy to learners to no extent. However, 6.4% of the respondents stated that they have the ability and are prepared to infuse digital literacy to a very great extent. The current study findings indicated that 60.6% of the respondents lacked ability and were not prepared to infuse digital literacy competencies to the learners. Therefore, teachers require assistance and more training on infusing

digital literacy to learners. This argument is supported by Ondimu (2018) who established that 61% of teachers were not exposed to ICT devices meaning that majority of teachers lack the capacity to infuse digital literacy to learners adequately. These observations concur with KICD (2018) report that 70% of teachers were not exposure to ICT devices, noting that infusing digital literacy is a core CBC competence.

Further, the study sought teachers' views on how well they were equipped and capable to infuse competence based curriculum competences to the learners. The variables were measured by a Likert-type scale to evaluate the extent to which the respondents agreed with the proposition of infusing CBC competencies into the learners. The scale values were: Very great extent (5); Great extent (4); No sure (3); Small extent (2); and No extent (1). The frequency and percentage results of the teachers' respondents are shown in Table 50.

Table 50: Teachers Responses on the Ability and Preparedness to Infuse CBC Competencies to Learners.

Competencies	VGE		GE		NS		SE		ZE		Total %
	F	%	F	%	F	%	F	%	F	%	
Communication and Collaboration	30	13.8	121	55.5	19	8.7	44	20.2	4	1.8	100
Critical thinking and problem solving	19	8.7	118	54.1	31	14.2	43	19.7	7	3.2	100
Imagination and creativity	29	13.3	106	48.6	31	14.2	46	21.1	6	2.8	100
Citizenship	39	17.9	109	50.0	26	11.9	38	17.4	6	2.8	100
Learning to learn	30	13.8	125	57.3	15	6.9	43	19.7	5	2.3	100
Self-efficacy	27	12.4	110	50.5	25	11.5	48	22.0	8	3.7	100
Digital literacy	11	5.0	65	29.8	28	12.8	88	40.4	26	11.9	100

VGE=Very Great Extent; GE= Great Extent; NS= Not Sure; SE=Small Extent; ZE=Zero Extent, F=Frequency and %= Percentage

Table 50 shows teachers' responses on the ability and preparedness to infuse various CBC competencies to learners. Concerning teacher's ability and preparedness to infuse communication and collaboration skills to learner's, majority (55.5%) of the participants stated that they had the ability and were prepared to infuse communication and collaboration skills to learners to a great extent, while 20.2% of the respondents indicated the ability and preparedness to infuse communication and collaboration competencies was to a small extent. However, 13.8% of the respondents say they are

very confident in their skills and readiness, a small number of the respondents 1.8% say they are not, and 8.7% are unsure. The results show that most of the respondents (69.3%) are capable and ready to foster collaboration and communication skills among their students. These findings disagree with Rutere and Njeru (2019) establishment that 79.2% of teachers required assistance in infuse communication and collaboration competencies to learners.

Pertaining to the ability and preparedness to infuse critical thinking and problem-solving competencies to learners 54.1% of the respondents stated that they had the ability and preparedness to infuse critical thinking and problem solving to a great extent, while 19.7% of the respondents stated that their ability and preparedness was to a small extent. Further, 8.7% of the respondents indicated that the ability and preparedness was to a very great extent, and 14.2% were not sure. More so, 3.2% of the respondents indicated the ability and preparedness was to no extent. The findings induced that 62.8% of the respondents have the ability to infuse critical thinking and problem-solving competencies to the learners. These findings are in contrast with Rutere and Njeru (2019) observation that 88.7% of teachers had difficulties in infusing critical thinking and problem-solving competencies to learners.

In regard to infusing imagination and creativity competencies 48.6% of the respondents say that they are very capable and ready to influence students' use of imagination and creativity, while just 21.1% say they are only somewhat capable and prepared. Furthermore, 13.3% of respondents say they are highly confident in their preparedness and abilities, compared to 14.2% who are unsure and 2.8% who have no opinion. According to the results, 61.9% of the respondents are capable and ready to help students develop their imagination and creativity skills. These findings are in disagreement with Rutere and Njeru (2019) who found that 82.7% of teachers were incompetent in infusing creativity and imagination competencies.

Teachers who responded to the study rated their capacity to instill citizenship in their students to a large level at 50.0% and to a very great amount at 17.9%. However, 17.4% of the respondents induced their ability and preparedness to a small extent, and 2.8% to zero extent respectively. Further, 11.9% of the respondents were not sure. The current

study induces that 67.9% of the respondents have the ability to infuse citizenship competencies to the learners.

Concerning the ability and preparedness of the respondents to infuse learning to learn competencies to the learners, majority (57.3%) of the respondents indicated that they had the ability and are prepared to infuse learning to learn competencies to a great extent. Additionally, 13.8% of the respondents their ability and preparedness to a very great extent. However, 19.7 % induced their ability to a small extent and 2.3% of the respondents indicated their ability to zero extent. Further,6.9% of the respondents gave no opinion. The results postulate that 71.1% of the respondents had the ability and are prepared to infuse learning to learn competencies to the learners.

On the ability and preparedness of the teachers to infuse self-efficacy 50.5% of the respondents posit that they have the ability and are prepared to infuse self-efficacy among learners to a great extent, while 22.0% of the respondents induced the ability and preparedness to a small extent. However, 3.7% of the respondents indicated the ability and preparedness to no extent. Further, 12.4% of the respondents indicated that they could impact self-efficacy to a very great extent, while 11.5% of the respondents were not sure. The findings indicate that 62.9% of respondents have the ability to infuse self-efficacy skills to the learners.

Further, in regard to the ability and preparedness of the teachers to infuse digital literacy to learners, majority (40.4%) of respondents rated the ability and preparedness to a small extent, while 29.8% rated the ability and preparedness to a great extent. Likewise, 5.0% of the respondents rated the ability to a very great extent. However, 11.9% of the respondents indicated the ability and preparedness to impact digital literacy to no extent, and 12.8% of the respondents were not sure. The findings opined that 52.3% of the respondents have inadequate abilities and were unprepared to infuse digital literacy to learners.

These findings are in agreement with Njeru and Itegi (2018) assertion that 66.7 % of teachers lacked the abilities and preparedness to infuse digital literacy to the learners. Thus, teachers require assistance to infuse digital literacy to the learners. These findings

also disagree with TSC sub county directors who contended that teachers have the ability to infuse all CBC competencies, the only challenge is electricity connectivity and internet network in a number of public primary schools.

4.7.4 Testing Hypothesis H₀₃:

There is no statistically significant relationship between the human resource competencies and the effective implementation of the competence based curriculum in Tharaka Nithi County, Kenya. The researcher sought to establish the correlation between human resources competencies and effective implementation of competence based curriculum. The regression summary model, linear regression coefficient and correlation tests are presented in this section.

4.7.4.1 Simple Linear Regression

The third objective of this study was to determine the relationship between human resource capabilities and successful competence based curriculum implementation in various categories of primary schools in Tharaka Nithi County, Kenya. To assess the relationship between the competencies of human resources and effective implementation of competence based curriculum, the following hypothesis was tested H₀₃: There is no statistically significant relationship between the competencies of human resources and effective implementation of the Competence Based Curriculum in Tharaka Nithi County, Kenya. Linear regression analysis was done to test hypothesis three. The human resources competencies were regressed against the effective implementation of competence based curriculum to establish the percentage of variation that was explained by independent variable in the model. Head teachers' results are shown in Table 51.

Table 51: Head teachers Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.520 ^a	.270	.309	.90457

a. Predictors: (Constant), C.H.R

The results in Table 51 show that human resource competencies had influence on competence based curriculum. The value for R is 0.520 while the R-Squared value in this model is 0.270 indicating that approximately 27.0% of the variance is accounted

for by the model. The adjusted R-Square, considering model complexity, is 0.309. The standard error of the estimate measuring prediction accuracy, is 0.90457. The findings indicate that human resource competencies contributes to effective implementation of competence based curriculum. The researcher further did linear regression analysis for teachers to establish the percentage of variation that was explained by independent variable in the model. Teachers findings are presented in Table 52.

Table 52: Teachers Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.474 ^a	.225	.347	.92973

a. Predictors: (Constant), C.H.R.

In Table 52 induce that human resource competencies had influence on competence based curriculum, the effectiveness of this model is shown by the values in the table 52. The R value is 0.474, the R Square value of this model is 0.225, signifying that around 22.5% of the variability in the dependent variable (effective implementation of CBC) is accounted for by the independent variable (human resource competencies). The adjusted R-Square of 0.347 considers the model's complexity, while the standard error of the estimate 0.92973 quantifies the typical difference between observed and predicted values. The results induce that human resource competencies contributes to effective implementation of competence based curriculum. In relation to the third objective, linear regression coefficient analysis was done to test hypothesis three. The human resource competencies were regressed against the effective implementation of competence based curriculum. Head teachers' results are shown in Table 53.

Table 53: Simple Linear Regression Coefficient for Head Teachers

Model		Unstandardized Coefficients		Coefficients		T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Standardized Coefficients	Beta			Lower Bound	Upper Bound
1	(Constant)	1.916	.275			6.959	.000	1.370	2.462
	C.H.R	.457	.095	.420		4.788	.000	.268	.646

Table 53 summarizes the head teachers' linear regression coefficient results. The regression intercept labeled 'constant' took a value of 1.916. It represents the predicted

value of independent variable when the independent variable has a zero value. The regression slope or unstandardized coefficient (B in SPSS) takes the value 0.457 for competence of human resource. These was the amount by which the dependent variable change for an increase of 1 unit in independent variable. As a result, an increase in human resource competence will result in a 45.7% rise in the CBC's ability to be implemented effectively. The t-value for human resource competence is 4.788 at a 0.000 p-value, which is higher than 0.05. Since there is a statistically significant relationship between human resource competencies and the successful implementation of a competence based curriculum in Tharaka Nithi County, hence the null hypothesis is rejected. The Simple Linear Model for the head teachers' responses is: $Y = 1.916 + 0.457X$ Where Y is the dependent variable (Effective Implementation of CBC) X is the independent variable (Capabilities of Human Resource).1.916 is the constant.

The researcher further did linear regression coefficient for teachers to test hypothesis three. The human resources competencies were regressed against the effective implementation of competence based curriculum. Teachers findings are presented in Table 54.

Table 54: Simple Linear Regression Coefficient for Teachers

Model	Unstandardized Coefficients		Coefficients ^a		T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Standardized Coefficients	Beta			Lower Bound	Upper Bound
1 (Constant)	16.601	1.066			15.570	.000	14.499	18.702
C.H.R	.277	.053	.334		5.196	.000	.172	.381

a. Dependent Variable: effective CBC

Table 54 shows linear regression coefficient results for teachers, the regression intercept labeled 'constant' took a value of 16.601. It represents the predicted value of independent variable when the independent variable has a zero value. The regression slope or unstandardized coefficient (B in SPSS) took the value 0.277 for competence of human resource. These were the changes in the dependent variable as a result of an increase in the independent variable of one unit. As a result, an improvement in human resource competencies will result in a 27.7% rise in the CBC's ability to be implemented effectively. The t-value for enough human resources competence is 5.196, with a p-value of 0.000, which is higher than 0.05. Since there is a statistically significant

relationship between human resource competence and the successful implementation of a competence based curriculum in Tharaka Nithi County, the null hypothesis is therefore rejected. The Simple Linear Model for teachers is: $Y=16.601+ 0.277X$ Where Y is the dependent variable (Effective Implementation of CBC) X is the independent variable (Human Resource Capabilities). 16.601 is the constant.

Results on human resource competencies and effective implementation were positive and significant for head teachers and teachers. The findings of this study are in harmony with Fullan (2015) postulation that when teachers have the necessary skills, successful implementation of a curriculum would materialize. These findings are in coherent with the observations made by Kisa and Correnti (2015) that if teachers lack knowledge, beliefs, and practices would hinder smooth curriculum implementation. Therefore, practical experience and continuous training of teachers will enhance the successful implementation of CBC. Thus, the attraction, development, and retaining of competent teachers should be stakeholders' priority in enhancing the effective implementation of competence based curriculum.

4.7.4.2 Correlation between Competence of Human Resources and the Effective Implementation of CBC

The correlation between the dependent variable and the independent variables was examined in this section. To determine whether there was a relationship between the variables individually, the study performed the Pearson correlation test.

The goal of this section was to determine if human resources competencies and successfully implementing a competence based curriculum were related. The head teachers' result of correlation of human resource competencies and effective implementation of CBC are shown in Table 55.

Table 55: Correlation for Head Teachers

		Correlations ^b	
		Effective CBC	C.H.R
Effective CBC	Pearson Correlation	1	.420**
	Sig. (2-tailed)		.000
C.H.R	Pearson Correlation	.420**	1
	Sig. (2-tailed)	.000	

** . Correlation is significant at the 0.01 level (2-tailed).

Table 55 summarizes head teachers' findings on the correlation between human resource competencies and effective implementation of competence based curriculum. The Pearson correlation coefficient value of 0.420, which is significant at 0.05 level of significance because its p value is 0.000. It shows that there is a positive relationship between effective CBC implementation and the competence of the human resource.

The researcher further computed correlation coefficient from the teachers' data to establish whether there was a correlation between human resources competencies and effective implementation of competence based curriculum. Table 56 presents the findings.

Table 56: Correction for Teachers

		Correlations	
		Effective CBC	c.h.r
Effective CBC	Pearson Correlation	1	.334**
	Sig. (2-tailed)		.000
	N	218	217
c.h.r	Pearson Correlation	.334**	1
	Sig. (2-tailed)	.000	
	N	217	217

** . Correlation is significant at the 0.01 level (2-tailed).

Table 56 summarizes teachers' findings on the correlation between human resources competencies and effective implementation of competence based curriculum. The Pearson correlation coefficient value of 0.334, is significant at 0.05 level of significance because its p value is 0.000. Hence, it shows that there is a positive relationship between effective CBC implementation and the competence of the human resource.

4.7.5 Suggestions on how to Enhance Human Resource Competencies for Effective Implementation of CBC

The study sought respondents' suggestions on how to improve human resource competencies for successful implementation of competence based curriculum in public primary schools in Tharaka Nithi County. Respondents gave suggestions in open ended questions of the questionnaire. The strategies suggested were thoroughly read and segmented into coherent themes points, under every theme were discussed in order of

the frequencies with which they were raised. Table 57 present head teachers' suggestions

Table 57: Head Teachers Suggestions on Strategies to Enhance Human Resource Competencies

Strategies	Head teacher	
	F	%
Regular training for teachers	74	67.9
Teacher motivation	30	27.5
Regular monitoring and evaluation of CBC implementation	8	7.3
Provision of adequate teaching and learning materials	4	3.7

Table 57 presents the finding of the study on head teachers' suggestions on the strategies to employ to enhance human resource competencies for effective implementation of CBC. Majority (67.9%) of the respondents indicated that teacher require regular training to enhance their teaching competencies for effective implementation of competence based curriculum. This suggestion is in agreement with Alajmi (2021) who found that teachers needed training on professional development, assessment and instructional technology. More so 27.5% of the respondents felt that teacher motivation could promote enhancement of human resource competencies. The finding concurs with Adewusi, Ogegbo and Tijani (2020) study in Nigeria establishment that teachers required financial incentives from the government as a way of motivation. The provision of adequate teaching and learning materials, according to 3.7% of the respondents, also could contribute to the improvement of human resource competencies for the successful implementation of competence based curriculum.

The suggestion is in harmony with Adewusi, Akinrinola, Emmanuel and Ogegbo (2020) who established that the available teaching and learning resources were insufficient for both teachers and students. Moreover, 7.3% of the respondents believed that regular monitoring and evaluation of the competence based curriculum could enhance human resource competencies.

The study further sought teachers' suggestions on the strategies that could help to enhance teacher's competencies for successful implementation of competence based curriculum in public primary schools in Tharaka Nithi County. The respondents were

required to give their suggestions in the open- ended items of the questionnaire. Table 58 show teacher’s responses.

Table 58: Teachers Suggestions on Strategies to Enhance Human Resource Competencies for Effective Implementation of CBC

Strategies	Teacher	
	F	%
More training for teachers	104	47.7
Provision of adequate teaching/ learning resources	55	25.2
Teacher motivation	52	23.9
Reducing learning areas	6	2.8
Reducing teacher- pupil ratio	5	2.3

Table 58 shows the opinion of teachers on the strategies to enhance human resource competencies in public primary schools. Frequencies in the table postulate that 47.7% of the respondents felt that availing more teacher training could enhance human resource competencies. This suggestion is in agreement with Komba and Mwandaji (2015) who noted that regular training of teachers was required for effective implementation of competence based curriculum. This suggestion is also reinforced by Makunja (2016) assertion that inadequate training for teachers hinder successful implementation of competence based curriculum. However, 25.2% of the respondents suggested that provision of sufficient teaching and learning materials could improve human resource competencies, while 23.9% stated that enhanced teacher motivation could heighten human resource competencies.

This strategy suggested in the current study is in line with Rutere and Njeru (2019) observation that teacher dissatisfaction leads to unsuccessful implementation of competence based curriculum. Further, 2.8% of the participants posit that reducing competence based curriculum learning areas could deepen the enhancement of competencies by human resource personnel and a small percentage of the respondents 2.3% induced that reducing teacher-pupil ratio could improve the acquisition of human resource competencies for effective implementation of competence based curriculum.

4.8 Adequacy of Financial Resources and Effective Implementation of CBC

4.8.1 Introduction

By determining the sufficiency of financial resources and the successful implementation of CBC in Tharaka Nithi County, Kenya, this part presents the study's fourth objective. The relationship between financial resources and the successful implementation of competence based curricula is also examined in this section. The research instrument addressed financial resource adequacy to measure effectiveness of implementing CBC and the extent adequacy of financial resources affect effective implementation of CBC.

4.8.2 Availability of Financial Resources and Effective Implementation of CBC.

The purpose of the study was to determine whether there are sufficient financial resources available for efficient implementation of CBC. The research instrument addressed several aspects of financial resources that could measure the adequacy and the effective implementation of CBC. The research variables are measured by a Likert scale to evaluate the respondents' agreement with the propositions. The scale variables were: Strongly agree (5); Agree (4); No opinion (3); Disagree (2); Strongly disagree (1). Table 59 presents the head teachers' responses.

Table 59: Head Teachers Responses on the Availability and Adequacy of Financial Resources

	SA		A		NO		D		SD		Total %
	F	%	F	%	F	%	F	%	F	%	
The government has availed adequate financial resources to schools to aid the effective implementation of CBC	4	3.7	1	0.9	7	6.4	54	49.5	43	39.4	100
Parents have the financial ability to support the effective implementation of the CBC	3	2.8	2	1.8	4	3.7	49	45.0	51	46.8	100
The government has provided money for CBC on time	2	1.8	2	1.8	20	18.3	47	43.1	38	34.9	100
CBC will increase the financial burden on low-income earners	33	30.3	28	25.7	15	13.8	11	10.1	22	20.2	100

SA= Strongly Agree; A=Agree; NO=No Opinion; D=Disagree and SD=Strongly Disagree, F=Frequency and %= Percentage

Table 59 gives information on the head teacher's responses to financial issues that may affect successful implementation of CBC. Regarding the aspect that the government has availed adequate financial resources to schools to aid the effective implementation of CBC, majority (49.5%) of the respondents disagreed with the proposition, while 39.4% strongly disagreed with the assertion that the government has availed adequate financial resources to schools to aid the effective implementation of CBC. However, 0.9% of the respondents agreed with the assertion and 3.7% strongly agrees that the government has availed adequate school resources to aid the effective implementation of CBC further, 6.4% of the respondents held no opinion on the assertion. These findings of the current study are corroborated by Kaviti's (2018) study on Kenya's new curriculum for education: A shift in linguistic and educational paradigms, which found that there were insufficient finances and resources to pay for the building of physical facilities. The government capitation for implementation of CBC was inadequate (Wambua & Waweru 2019). Similarly, the current study findings are in agreement with Ngeno, Mweru and Mwoma (2021) establishment that there were inadequate finances in schools. Therefore, there is need to increase school funding for effective implementation of competence based curriculum.

On the assertion that parents have the financial abilities to support the effective implementation of CBC, majority (46.8%) of the respondents strongly disagreed with the proposition, while 45.0% participants disagreed with the statement. However, a small number of the respondents 2.8% strongly agreed with the proposition, and 1.8% of the respondent's stated that parents have the financial abilities to support the effective implementation of CBC, while (3.7%) of the respondents gave no opinion. The findings indicated that 91.8% of the respondents opined that parents had insufficient financial abilities to support effective implementation of competence based curriculum. The assertion is in harmony with Orina (2020) study on the role of parents in the Kenya education thwarting the new competence based curriculum plan establishment that competence based curriculum demanded for additional funding from the parents and this posed a challenge to parents with low income.

Concerning the proposition that the government provided money for the effective implementation of CBC on time, majority (43.1%) of the respondents disagreed, while 34.9% of the respondents strongly disagreed with the assertion that government provides money for implementing CBC on time. A small percentage (1.8%) of the respondents strongly agreed with the proposition and 1.8% of the respondents agreed. Further, 18.3% of the respondents gave no opinion. These findings induced that 78.0% of the respondents posit that government has failed to release capitation on time to ensure effective implementation of competence based curriculum.

Further, on the statement that competence based curriculum increases the financial burden on low-income earners, majority (30.3%) of the respondents strongly agreed with the statement, while 25.7% agreed that CBC increase the financial burden on the low-income earners. In contrast, 20.2% of the respondents strongly disagreed, while 10.1% disagreed with the assertion, and 13.8% of the respondents held no opinion. The findings indicate that implementation of competence based curriculum increase financial burden on low- income earners. These findings concur with Otieno and Onyango (2019) postulation that competence based curriculum implementation brought in new expenditures that were to be catered for by parents. Hence, increasing financial burden especially for the low- income parents.

Further, the study sought teachers' opinion on the impact of availability and adequacy of financial resources and successful implementation of competence based curriculum in Kenya's Tharaka Nithi County. The research instrument addressed several aspects that could measure the availability and adequacy of financial resources for effective of implementation of CBC. The research variables are measured by a Likert scale to evaluate the respondents' agreement with the statements. The scale variables were: Strongly agree (5); Agree (4); No opinion (3); Disagree (2); Strongly disagree (1). Table 60 present the teachers' responses.

Table 60: Teachers Responses on the Availability and Adequacy of Financial Resources for Effective Implementation of CBC.

Statement	SA		A		NO		D		SD		Total %
	F	%	F	%	F	%	F	%	F	%	
The government has availed adequate financial resources to schools to aid the effective implementation of CBC	5	2.3	12	5.5	31	14.2	93	42.7	77	35.3	100
Parents have the financial ability to support the effective implementation of the CBC	3	1.4	8	3.7	19	8.7	77	35.3	111	50.9	100
The government has provided money for CBC on time	0	0.0	9	4.1	32	14.7	84	38.5	93	42.7	100
CBC will increase the financial burden on low-income earners	69	31.7	36	16.5	22	10.1	33	15.1	58	26.6	100

SA= Strongly Agree; A=Agree; NO=No Opinion; D=Disagree and SD=Strongly Disagree, F=Frequency and %= Percentage

Table 60 shows the respondents views on various financial aspects for the effective implementation of CBC. On the aspect that the government has availed adequate financial resources to schools to aid the effective implementation of CBC, majority (42.7%) of the respondents disagreed with the assertion, while 35.3% strongly disagreed with the statement that the government has availed adequate financial resources to schools to aid effective implementation of CBC. However, 5.5% of the respondents agreed, while 2.3% strongly agreed, and 14.2% of the respondents gave no opinion.

These finding agrees with Kaviti and Kigwilu (2017) establishment that financial resources were not adequate for effective implementation of CBC, the study recommended that for schools to effectively implement CBC they need to be adequately funded in order to procure the prerequisite inputs such as textbooks and other teaching and learning materials. Further, this argument is supported by Acquaaah, Frimpongo and Kwame (2017) observation that CBC was not effectively implemented in Ghana because of inadequate funds. Hence, inadequate funds affect effective implementation of CBC. These findings are also supported by Sherlock (2011) who established a

positive relationship between school funding and effective implementation of a curriculum.

On the statement that parents have the financial ability to support the effective implementation of CBC 50.9% of the respondents strongly disagreed, while 35.3% of the respondents disagreed. However, a small percentage 1.4% of the respondents strongly agreed that the parents have the financial means to support the successful implementation of CBC. Additionally, 3.7% agreed, while 8.7% of the respondents gave no idea. The findings indicated that 86.2% of the respondents indicated that parents lacked financial ability to support effective implementation of CBC. Concerning the proposition that government had timely disbursed capitation for the implementation of CBC on time, majority (42.7%) of the respondents strongly disagreed that the government has timely disburse capitation for the implementation of CBC. In addition, 38.5% disagreed with the assertion, whereas 4.1% of the participants agreed with the assertion that the government had provided money to implement CBC effectively on time. Furthermore, none of the respondents strongly agreed with the statement that the government had allocated funds for the timely and successful implementation of CBC, and 14.7% of the respondents had no view. The findings of the current study observe that 81.2% of the respondents reveal that government delay in disbursing school's funds for effective implementation of CBC curriculum. The finding concurs with Kaviti (2018) argument that government delay in releasing capitation to schools affected successful implementation of competence based curriculum.

Moreover, on the assertion that implementation of competence based curriculum would increase financial burden on low- income earners, majority (31.7%) of the respondents strongly agreed while 16.5% agreed that CBC implementation would increase the financial burden on low-income earners. However, the proposition was opposed by 26.6% of the respondents who strongly disagreed that CBC would increase the financial burden on low-income earners, while 15.1% of the respondents disagreed with the assertion, and 10.1% held no opinion.

Thus, 48.2% of the respondents agreed with the proposition, while 41.7% disagree. This argument is confirmed by sub county directors of education who revealed that schools with low enrollment receive inadequate capitation. Therefore, parents are called upon to supplement the government funding, thus, increasing financial burden to the parents.

4.8.3 Level of Financial Preparedness for Effective Implementation of CBC

For competence based curriculum to be successfully implemented by the government, study was done to determine the financial readiness. The research instrument addressed several aspects of financial resources readiness that could measure the preparedness and the effective implementation of CBC. The research variables are measured by a Likert scale to evaluate the respondents' agreement with the propositions. The scale variables were: Strongly agree (5); Agree (4); No opinion (3); Disagree (2); Strongly disagree (1). Table 61 presents the head teachers' responses.

Table 61: Head Teachers Responses to the Level of Government Preparedness and Effective Implementation of CBC.

Statement	SA		A		NS		D		SD		Total %
	F	%	F	%	F	%	F	%	F	%	
The government capitation is adequate for the effective implementation of the CBC	3	2.8	4	3.7	13	11.9	62	56.9	27	24.8	100
The government capitation for implementation of CBC is disbursed promptly	4	3.7	4	3.7	25	22.9	55	50.5	21	19.3	100
Parental financial support is adequate in supporting the effective implementation of CBC	6	5.5	5	4.6	9	8.3	57	52.3	32	29.4	100
School levies by parents for effective implementation of CBC are paid promptly	6	5.5	4	3.7	12	11.0	48	44.0	39	35.8	100
Donor funding is adequate for the effective implementation of the CBC	5	4.6	12	11	13	11.9	29	26.6	50	45.9	100
Stakeholders' financial support is adequate to ensure the effective implementation of CBC	5	4.6	11	10.1	11	10.1	36	33.0	46	42.2	100

SA= Strongly Agree; A=Agree; NS=Not sure, D=Disagree and SD=Strongly Disagree, F=Frequency and %= Percentage

Table 61 summarizes the responses from head teachers regarding how well the government is prepared to implement CBC. Concerning the proposition that the government capitation is adequate for the effective implementation of CBC 56.9% of the respondents disagreed with the statement, while 24.8% strongly disagreed. A small number of the respondents (3.7%) and 2.8% agreed and strongly agreed with the assertion respectively. However, 11.9% of the participants gave no opinion on the proposition. From the study findings 81.7% of the respondents indicated that government capitation is insufficient for schools to effectively implement competence based curriculum. This argument concurs with Wambua and Waweru (2019) who observed that the government funding of competence based curriculum was insufficient to successfully implement CBC curriculum.

Further, on the statement that government capitation for effective implementation of CBC is disbursed promptly majority (50.5 %) of the respondents disagreed with the assertion, while 19.3% strongly disagreed. However, 3.7% of the respondents agree and 3.7% strongly agreed with the statement. However, 22.9% of the respondents gave no opinion. The study's findings show that 69.8% of the respondents believe that there are delays in the distribution of government capitation. This finding is supported by Kaviti (2018) indication that schools often were faced with cash crisis that affected effective implementation of CBC due to delays by the government in disbursing CBC capitation. Therefore, schools need to be adequately funded and government should promptly release school capitation.

Regarding the assertion that parental financial support is adequate in supporting the effective implementation of CBC majority (52.3%) of the respondents disagreed with the proposition, while 29.4% strongly disagreed. However, 5.5% of the respondents strongly agreed with the statement and 4.6% agreed. Further, 8.3 % of the respondents had no opinion. The study observes that 81.7% of the respondents opined that parental financial support was inadequate in supporting effective implementation of CBC. This finding is in harmony with Orina (2020) argument that parents of low-income background were unable to supplement government money that is why public primary schools lagged behind in implementing competence based curricula.

More so, on the assertion that school levies by parents for effective implementation of CBC are paid promptly 44.0% of the respondents disagreed with the assertion, and still 35.8% of the respondents strongly disagreed. However, 5.5% of the respondents strongly agreed that school levy by parents for effective implementation of CBC is paid promptly, while 3.7% of the respondents agreed with the statement, and 11.0% had no opinion. From the study findings 79.8% of the respondents postulated that parents delayed in paying school levies meaning that implementation of CBC was affected negatively. On the assertion that donor funding is adequate for the effective implementation of CBC majority (45.9%) of the respondents strongly disagreed, and 26.6% of the respondents disagreed that donor funding is adequate for the effective implementation of CBC. Contrary, 11.0% and 4.6% of the respondents agreed and strongly agreed with the assertion respectively, while 11.9% held no opinion. The findings reveal that 72.5% of the respondents assert that donor funding was insufficient for effective implementation of CBC. This assertion is supported by Hwande and Mpofu (2017) who found that donors were not aiding schools to implement competence based curriculum.

Concerning the claim that stakeholders' financial support is sufficient to ensure the successful implementation of CBC, 42.2% of the respondents disagreed strongly with the statement, while 33.0% do not agree. However, 4.6% of the respondents strongly agreed with the proposition that stakeholders' financial support is adequate to ensure the effective implementation of CBC, while 10.1% agreed. Further, 10.1% of the respondents expressed no view. According to the results, 75.2% of the respondents said that the financial assistance of the stakeholders was insufficient to ensure the successful implementation of competence based curriculum.

Moreover, the study sought teachers 'opinion on the government financial preparedness to implement competence based curriculum successfully. The research instrument addressed several aspects that could measure the government financial resource readiness for effective of implementation of CBC. The research variables are measured by a Likert scale to evaluate the respondents' agreement with the statements. The scale variables were: Strongly agree (5); Agree (4); No opinion (3); Disagree (2); Strongly disagree (1). Table 62 present the teachers responses.

Table 62: Teachers Responses to the Level of Government Preparedness for Effective Implementation of CBC.

Statement	5		4		3		2		1		Total %
	F	%	F	%	F	%	F	%	F	%	
The government capitation is adequate for the effective implementation of the CBC	6	2.8	16	7.3	37	17.0	106	48.6	53	24.3	100
The government capitation for implementation of CBC is disbursed promptly	8	3.7	11	5.0	43	19.7	96	44.0	60	27.5	100
Parental financial support is adequate in supporting the effective implementation of CBC	7	3.2	14	6.4	23	10.6	98	45.0	76	34.9	100
School levies by parents for effective implementation of CBC are paid promptly	9	4.1	12	5.5	27	12.4	98	45.0	72	33.0	100
Donor funding is adequate for the effective implementation of the CBC	7	3.2	10	4.6	36	16.5	66	30.3	99	45.4	100
Stakeholders' financial support is adequate to ensure the effective implementation of CBC	6	2.8	17	7.8	31	14.2	86	39.4	78	35.8	100

Strongly agree (5); Agree (4); No opinion (3); Disagree (2); Strongly disagree (1). F=Frequency and %= Percentage

Information in Table 62 shows teachers' responses on the level of government financial readiness to successfully implement competence based curriculum in Tharaka Nithi County, Kenya. Concerning the assertion that the government capitation was sufficient for implementing CBC efficiently, majority of the respondents (48.6%) disagreed with the assertion, while 24.3% strongly disagreed. A small percentage 2.8% of the respondents strongly agreed, while 7.3% agreed. More so, 17.0% of the respondents held no opinion. From the findings 72.9% of the respondents induced that government capitation was inadequate to effectively implement competence based curriculum. Insufficient funding constrains schools in provision of the necessary infrastructure and teaching and learning materials, hence, affecting learner's outcomes. This assertion is supported by an excerpt from one of the sub county director of education who stated that; *"Government gives school capitation to individual learner, this disadvantage schools with low enrollment. For example, a school with 100 learners receives Ksh.20 per learner in a certain vote head the school will end up get very little which is not adequate noting that the resources a school requires in a class of 50 pupils are equivalent to the resources require in a class of 10 pupils thus financial inadequacy depend on individual school based on enrollment. Therefore, parents may be called upon to assist in schools with low enrollment hence, increasing parents' financial burden"*

Regarding the assertion that government funding for the implementation of CBC was disbursed promptly 44.0% of the respondents disagreed with the assertion, while 27.5% strongly disagreed. However, 3.7% of the respondents strongly agreed with the assertion, while 5.0% agreed with the assertion that government funding for the implementation of CBC was disbursed promptly. Further, 19.7% of the respondents held no opinion. The findings established that 71.5% of the respondents agree that there was delay in disbursement of government capitation. Due to delays in disbursement government capitation schools are unable to provide the necessary infrastructure and teaching and learning materials as required and payment supplies.

On the proposition that parental financial support was adequate in supporting the effective implementation of CBC majority (45.0%) of the respondents disagreed with the proposition, while 34.9% of the respondents strongly disagreed.

However, 6.4% of the respondents agreed with the proposition, while (3.2%) strongly agreed, and 10.6% held no opinion. From the findings 79.9% of the respondents stated that parent financial support was inadequate in supporting effective implementation of CBC. Without parents support successful implementation of CBC is difficult since government capitation is also not adequate for effective implementation of CBC.

Further, on the assertion that schools levy by parents for effective implementation of CBC was paid promptly majority (45.0%) of the respondents disagreed with the assertion, while 33.0% strongly disagreed with the assertion. On contrast, 5.5% of the respondents agreed and 4.1% strongly agreed that schools levy by parents for effective implementation of CBC is paid promptly. More so, 12.4% of the respondents held no opinion. The findings from the current study averred that 75.0% of the respondents induced that levies by parents were not paid promptly. These findings combined with insufficient government capitation and delays in disbursement of school's funding makes effective implementation of CBC a challenge.

On the proposition that donor funding is adequate for the effective implementation of CBC 45.4% of the respondents strongly disagreed, likewise, 30.3% disagreed. In contrast, 3.2% of the respondents strongly agreed that donor funding is adequate for the effective implementation of CBC, and 4.6% agreed with the statement, while 16.5% hold no opinion. The findings indicate that 75.7% of the respondents opined that donor funding was inadequate to supplement the government funding to ensure successful implementation of CBC.

Regarding the assertion that financial support from stakeholders is sufficient to assure successful CBC implementation majority (35.8%) of the respondents strongly disagreed with the assertion, while 39.4% of the respondents disagreed that the financial assistance of stakeholders was sufficient to enable the successful implementation of CBC. However, 2.8% of the participants strongly agreed, while 7.8% agreed, and 14.2% had no idea. From the study findings 75.2% of the respondents indicated that stakeholders lacked adequate financial resources to support effective implementation of CBC.

4.8.4 Testing Hypothesis Ho4:

There is no statistically significant relationship between the adequacy of financial resources and effective implementation of the competence based curriculum in Tharaka Nithi County, Kenya. The researcher sought to establish the correlation between adequacy of financial resources and effective implementation of competence based curriculum. The regression summary model, linear regression coefficient and correlation tests are presented in this section.

4.8.4.1 Simple Linear Regression

The fourth objective of this study was on how well Competence Based Curriculum is being implemented in various categories of primary schools in Tharaka Nithi County, Kenya, and the impact the adequate financial resources have on its implementation. To show the relationship between the availability and adequacy of financial resources and effective implementation of competence based curriculum, the following hypothesis was tested. Ho₄: There is no statistically significant relationship between the adequacy of financial resources on effective implementation of the Competence Based Curriculum in Tharaka Nithi County, Kenya. The adequacy of financial resources was regressed against the effective implementation of competence based curriculum to establish the percentage of variation that was explained by independent variable in the model. Head teachers' results are shown in Table 63.

Table 63: Head Teachers Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.535 ^a	.299	.356	.93947

a. Predictors: (Constant), A.F.R

Table 63 show that adequate financial resources had influence on effective implementation of competence based curriculum. Further, the table presents the statistical performance of the model, where the value for R is 0.535, The R Square value of the model is 0.299 signifying that about 22.9% of the data's variability is explained by the model. The adjusted R Square, considering model complexity, is 0.356. The precision of the models predictions is gauged by the standard error of the estimate, with a value of 0.93947. The predictors involved are the constant and the variable A F R. The findings indicate that adequate financial resources enhance

effective implementation of competence based curriculum. The researcher further did linear regression analysis for teachers to establish the percentage of variation that was explained by independent variable in the model. Teachers findings are presented in Table 64

Table 64: Teachers Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.462 ^a	.213	.364	.94329

a. Predictors: (Constant), afr

Table 64 results indicate that adequacy of financial resource had influence on successful implementation of competence based curriculum. The value for R is 0.462, the model's coefficient of determination (R Square) is 0.213, indicating that approximately 21.3% of the variance in the dependent variables (effective implementation of competence based curriculum) is explained by the independent variable (adequate financial resources). The adjusted R Square, considering model complexity, is 0.364. The standard error of the estimate is 0.94329, representing the average difference between actual values and model predicted values. The results show that adequate financial resources contributes to successful implementation of competence based curriculum.

In relation to the fourth objective, linear regression coefficient analysis was computed to test hypothesis four. The availability and adequacy of financial resources was regressed against the effective implementation of competence based curriculum. Head teacher's results are shown in Table 65.

Table 65: Simple Linear Regression Coefficient for Head Teachers

Model	Coefficients ^a						
	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	2.442	.177		13.796	.000	2.091	2.793
A.F.R	.343	.075	.405	4.577	.000	.194	.491

a. Dependent Variable: Effective CBC

Information in Table 65 summarizes the head teachers' linear regression results. The regression intercept labeled 'constant' took a value of 2.442. It represents the predicted

value of independent variable when the independent variable has a zero value. The regression slope or unstandardized coefficient (B in SPSS) takes the value 0.343 for adequacy of financial resource. These was the amount by which the dependent variable change for an increase of one unit in independent variable. Therefore, 100% financial increase the effective execution of the CBC will grow by 34.3%. The t-value for sufficient financial resources is 4.577 at a p-value of 0.000, which is higher than 0.05. The null hypothesis is rejected and conclude that there is a statistical significant correlation between the sufficiency of financial resources and the successful implementation of a competence based curriculum in Tharaka Nithi County. The Simple Linear Model for the head teachers' responses is: $Y = 2.442 + 0.343X$ Where Y is the dependent variable (Effective Implementation of CBC) X is the independent variable (Adequacy of Financial Resources). 2.442 is the constant.

The researcher further did linear regression coefficient for teachers to test hypothesis four. The availability and adequacy of financial resources were regressed against the effective implementation of competence based curriculum. Teacher's findings are presented in Table 66.

Table 66: Simple Linear Regression Coefficient for Teachers

Model	Unstandardized Coefficients		Coefficients ^a		t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Standardized Coefficients	Beta			Lower Bound	Upper Bound
1 (Constant)	17.702	1.096			16.148	.000	15.541	19.862
a.f.r	.211	.053	.262		3.994	.000	.107	.315

a. Dependent Variable: Effective CBC

Information in Table 66 summaries teachers' linear regression results. The regression intercept labeled 'constant' took a value of 17.702. It represents the predicted value of independent variable when the independent variable has a zero value. The regression slope or unstandardized coefficient (B in SPSS) takes the value 0.211 for availability and adequacy of financial resource. These was the amount by which the dependent variable change for an increase of one unit in independent variable. Therefore, the effective execution of the CBC will grow by 21.1% as financial resources increase by 100%. The t-value for sufficient financial resources is 3.994 at a p-value of 0.000,

which is higher than 0.05. As a result, the null hypothesis is rejected and the conclusion that there is a statistically significant correlation between the sufficiency of financial resources and the successful adoption of a competence based curriculum in Tharaka Nithi County. The Simple Linear Model for the teachers' responses is: $Y = 17.702 + 0.211X$ Where Y is the dependent variable (effective Implementation of CBC) X is the independent variable (Adequacy of Human Resource). 17.702 is the constant.

The study's findings show that the availability and adequacy of financial resources for implementing CBC effectively was positive and significant for head teachers and teachers. The study findings are in agreement with Martins and Gomes (2014) assertion that financial resources are a key determinant in educational outcome. These findings also concur with Sisungu, Keberia and Buhrere (2014) observation that there is a positive relationship between the school level of funding and learners' academic performance.

4.8.4.2 Correlation between Availability and Adequacy of Financial Resources and the Effective Implementation of CBC

The correlation between the dependent variable and the independent variables was examined in this section. To determine whether there was a relationship between the variables individually, the study performed the Pearson correlation test. The goal of this section was to determine whether there is a relationship between availability and adequacy of financial resources and successfully implementation of competence based. The head teachers' results are shown in Table 67.

Table 67: Correlation for Head Teachers

		Correlations ^b	
		Effective CBC	A.F.R
Effective CBC	Pearson Correlation	1	.405**
	Sig. (2-tailed)		.000
A.F.R	Pearson Correlation	.405**	1
	Sig. (2-tailed)	.000	

** . Correlation is significant at the 0.01 level (2-tailed).

Table 67 summarizes head teachers' findings on the correlation between availability and adequacy of financial resources and effective implementation of competence based curriculum. The Pearson correlation coefficient value of 0.405, was significant at 0.05

level of significance because its p value is 0.000. It shows that there is a positive relationship between effective CBC implementation and the adequacy of the financial resources. The researcher further computed correlation coefficient from the teachers' data to establish whether there was a correlation between adequacy of financial resources and effective implementation of competence based curriculum. Table 68 presents the findings.

Table 68: Correlation for Teachers

		Correlations	
		Effective CBC	a.f.r
Effective CBC	Pearson Correlation	1	.262**
	Sig. (2-tailed)		.000
	N	218	218
a.f.r	Pearson Correlation	.262**	1
	Sig. (2-tailed)	.000	
	N	218	218

** . Correlation is significant at the 0.01 level (2-tailed).

Table 68 summarizes teachers' findings on the correlation between adequacy of financial resources and effective implementation of competence based curriculum. The Pearson correlation coefficient value, of 0.262, was significant at 0.05 level of significance because its p value is 0.000. It shows that there is a positive relationship between effective CBC implementation and the adequacy of the financial resources. The findings of the current study agree with Sherlock (2011) observation that there is direct relationship between schools financing effective implementation of a curriculum.

4.8.5 Strategies on what can be done to Enhance Financial Resource for Successful Implementation of CBC

The study sought head teachers' suggestions on how to improve availability and adequacy of financial resources for successful implementation of competence based curriculum in public primary schools in Tharaka Nithi County Kenya. Respondents gave suggestions in open ended questions of the questionnaire. The strategies suggested were thoroughly read and segmented into coherent themes points, under every theme were discussed in order of the frequencies with which they were raised. Table 69 present head teacher's suggestions

Table 69: Head Teachers Strategies on how to Enhance Financial Resources

Strategies	Head teachers	
	F	%
Government to increase school capitation	88	80.7
Parents, stakeholder and donors to support schools	49	41.3
Prompt disbursement of school capitation	22	20.9
Teachers to improvise teaching/learning resources	9	4.1
Schools to establish income generating activities	6	2.8

Table 69 shows head teacher's suggestion that could enhance adequacy of financial resources for effective implementation of CBC in Tharaka Nithi County. Majority (80.7%) of the respondents opined that government should increase school capitation to improve financial status of schools. This suggestion is in harmony with Acquah, Frimpongo and Kwame (2017) establishment that inadequate funds hamper successful implementation of competence based curriculum. In addition, 41.3% of the participants felt that parents, stakeholders and donors should support public primary schools financially.

Further, 20.9% of the respondents induced that government capitation is promptly disbursed to schools while 4.1% of the respondents felt that teachers should improvise teaching and learning materials from the locally available resources to cut on the cost of competence based curriculum implementation. Moreover, 2.8% of the respondents posit that schools should establish income generating activities to supplement the government capitation. The study further sought teacher opinions on strategies that could help to enhance adequacy of financial resource for effective implementation of competence based curriculum in public primary schools in Tharaka Nithi County. The respondents were required to give their suggestions in the open-ended items of the questionnaire. Table 70 show teacher's responses.

Table 70: Teachers Suggestions on how to Enhance Financial Resources

Suggestions	Teacher	
	F	%
Allocation of more capitation to schools	137	62.8
Parents/stakeholder/donor support	80	36.7
Prompt disbursement of school capitation	44	20.2
Abolish CBC and revert to 8-4-4 curriculum	14	6.4
Schools to engage in income generating activities	13	6.0

Table 70 displays the results of the study on the measures teachers at public elementary schools in Tharaka Nithi County suggested to increase financial resources. Majority (62.8%) of the respondents felt that increasing public primary school's capitation could heighten the financial resources in Tharaka Nithi County. This suggestion is supported by Moshi (2012) recommendation that schools needed more financial support to construct adequate infrastructure and employ more staff. Additionally, 36.7% of the respondents indicated that parental involvement, stakeholder's engagement and seeking donor support could enhance financial resources in public primary schools.

This suggestion is in agreement with Hwande and Mpofu (2017) who noted that donors were not aiding schools in implementation of competence based curriculum. More so, 20.2% of the respondents averred that prompt disbursement of government capitation to schools could improve public primary school's financial resources, while 6.4% of the participants induced that competence based curriculum should be abolished all together and revert to the content based curriculum-8-4-4 to post financial resources in public primary schools. This proposal is in agreement with Rutere and Njeru (2019) who found that 37.6% of the participants felt that the country was not fully prepared for successful implementation of competence based curriculum. Furthermore, 6.0% of the respondents opined that schools should engage in income generating activities to enhance their financial base.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

The study sought to establish the antecedents of competence based curriculum and its effective implementation in public primary schools. The study was guided by the following objectives: to assess the relationship between the adequacy of physical resources and effective implementation of a competence based curriculum in Tharaka Nithi County; to determine the relationship between adequacy human resources and effective implementation of competence based curriculum in Tharaka Nithi County; to determine the relationship between human resource capabilities and effective implementation of competence based curriculum in Tharaka Nithi County; and to evaluate the relationship between financial resources and effective implementation of competence based curriculum in Tharaka Nithi County.

The first objective of the study findings revealed that school furniture, playground, teaching and learning materials, laboratories, offices, reference books, computers, computer rooms, music rooms, libraries, bookstores and nutritional laboratories were insufficient in public primary schools. However, classrooms, textbooks, toilets, water and electricity were adequate. Further, the findings indicated that inadequacy of physical facilities, digital literacy teaching and learning materials and practical learning materials negatively affect effective implementation of competence based curriculum.

In relation to the second objective the study findings established that public primary schools have sufficient teachers and inadequate technical/support staff to effectively carry out the curriculum. Teacher-pupil ratio was high and class size were conducive for successful implementation of competence based curriculum. However, teacher workload was not balanced. The findings noted that inadequate human resource, high teacher-pupil ratio, high teacher turnover and limited time allocated for CBC implementation hinder effective implementation of competence based curriculum.

Further, on the third objective the Research findings revealed that teachers lacked the necessary preparation to successfully integrate competence based curriculum in their classrooms. However, teachers have the abilities to infuse core competence based

curriculum competencies. Hence, teachers were able to infuse; communication and collaboration; critical thinking and problem solving skills; imagination and creativity; learning to learn skills and self-efficacy to learners. In contrast, teachers' lacked the required abilities and preparedness to infuse digital literacy to learners.

In respect to the fourth objective the study found that the government's allocated funds for the successful implementation of Competence Based Curriculum (CBC) were deemed insufficient. Moreover, parents lacked the financial abilities to support successful implementation of competence based curriculum. Also, the study found that there were delays in disbursement of government capitation, and that CBC increased the financial burden to the low income earners. Further, parents, donors and stakeholders support was insufficient for successful implementation of competence based curriculum.

5.2 Conclusion

Increase in physical resources was predicting 37% increase in the implementation of competence based curriculum for the first objective, the null hypothesis that stated that; There is no statistical significant relationship between the adequacy of physical resources and the effective implementation of a competence based curriculum in Tharaka Nithi County, Kenya was tested, and the inferential statistics led to its rejection where the researcher adopted the alternative hypothesis. Therefore, there is statistical relationship between adequacy of physical resources and effective implementation of competence based curriculum in Tharaka Nithi County. Further, Pearson Correlation Coefficient revealed a positive correlation coefficient between adequacy of physical resources and effective implementation of competence based curriculum.

For the second objective, qualitative inferential analysis revealed that there is no statistical relationship between adequacy of human resources and effective implementation of competence based curriculum. However, Pearson Correlation Coefficient revealed weak positive correlation coefficient between adequacy of human resources and effective implementation of competence based curriculum.

Simple linear regression was used to establish how human resource capabilities predicted effective implementation of CBC. The findings revealed that there is statistical relationship between human resource capabilities and effective implementation of competence based curriculum. More so, Pearson Correlation Coefficient revealed a positive relationship between human resource capabilities and effective implementation of competence based curriculum.

In regard to the fourth objective the inferential statistics led to its rejection. Therefore, there is statistical relationship between financial resources and effective implementation of CBC. The Pearson Correlation Coefficient indicated a positive correlation coefficient between financial resources and effective implementation of competence based curriculum.

5.3 Recommendations

From the study findings the following recommendations are proposed:

- i. Government should avail adequate physical resources in schools, such as classrooms, libraries, and laboratories, to ensure the effective implementation of the competence based curriculum.
- ii. The government should hire adequate human resource in all public primary schools to ensure successful implementation of competence based curriculum.
- iii. Professional development programs should be provided to teachers to enhance their competencies for the successful implementation of the competence based curriculum.
- iv. The government should increase the allocation of financial resources to schools to adequately support the implementation of the competence based curriculum.

5.4 Suggestions for Further Research

- i. The study can be replicated in other regions or countries to determine the generalizability of the findings.
- ii. Conduct longitudinal studies to explore the long-term impact of physical resources, human resource competencies, and financial resources on the effective implementation of the competence based curriculum.

- iii. Explore other factors that may influence the successful implementation of the competence based curriculum, such as teacher motivation, parental involvement, and student engagement.
- iv. Investigate the impact of different strategies and interventions aimed at enhancing the availability and adequacy of resources for the successful implementation of the competence based curriculum.
- v. Conduct comparative studies to explore the differences and similarities in the implementation of the competence based curriculum across different educational systems or countries.

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APPENDICES

Appendix I:

Consent Form for Participant

Research Title: Antecedents of Effective Implementation of Competence Based Curriculum among Public Primary Schools in Tharaka Nithi County, Kenya.

I understand the aims of the study being undertaken by Edward Patrick Gitonga Kathuni. I have read the information provided about this research and I understand that I can ask any question in regard to this study. I further understand that my participation is voluntary and I can withdraw my participation at any time without providing an explanation.

I understand that any information I provide will be kept confidential and anonymity will be ensured and that the information will not be traced back to me. I also understand that the finding from this study can be submitted for publication. I am aware that further information or clarification I can contact the researcher.

Appendix II: Questionnaire for Head Teacher

My name is Edward Patrick Gitonga Kathuni a Post graduate student from Tharaka University College pursuing a Doctor of Philosophy in Education Management. I am undertaking research on Antecedents of Effective Implementation of Competence Based Curriculum among Public Primary Schools in Tharaka Nithi County, Kenya. The finding of this study will be useful to education managers and policies planners in developing policies and strategies for effective implementation of competence based curriculum. Kindly take a few minutes to answer the questions below. The information given will be treated with uttermost confidentiality.

SECTION A: Personal Data (*Tick Where Appropriate*)

1. Gender:
Male
Female
2. Age bracket:
Below 25 years
26 – 30 years
31 – 35 years
36 – 40 years
Above 41 years
3. Academic qualification:
Certificate
Diploma
Degree
Masters
PhD
Any other, Specify.....
4. For how long have you worked as a head teacher in Tharaka Nithi County?
Less than 1 years
1 – 5 years
6 – 10 years
Over 10 years
5. (a). Have you participated in any in-service training for head teachers?
Yes
No
Not sure
- (b) If yes in the above, was there a component on CBC in the training?
Yes
No
Not sure[

6. Do you have training on effective implementation of CBC?
 Yes []
 No []
 Not sure []
7. Are teachers in your school trained in preparation to implement CBC?
 Yes []
 No []
 Not sure []
8. What is the category of your school?
 Public Boarding only []
 Public Day only []
 Public Day and Boarding []

Section B: Effective Implementation of CBC

9. Please indicate your opinion on the following statements about CBC in your school. Respond by ticking the extent to which you agree or disagree to the following statements. KEY: 5. Strongly agree 4. Agree 3. Undecided 2. Disagree 1. Strongly Disagree (Tick appropriately)

Statements	5	4	3	2	1
The CBC curriculum is contributing to the achievement of learner’s competencies					
The CBC curriculum is enabling learners to acquire values that are useful in the society					
The CBC curriculum is relevant to learners needs					
Teachers are satisfied with the CBC curriculum implementation					
The parents are satisfied with implementation of CBC curriculum					
The CBC is contributing to the development of learner’s creativity					
CBC assessment criterion is helping teachers to address gaps in instruction.					
The parents are engaged in CBC learning.					

10. Please indicate your level of agreement on the following statement on CBC in your school. Key: 5. Strongly agree 4. Agree 3. No opinion 2. disagree 1. Strongly disagree (Tick appropriately)

Statement	5	4	3	2	1
All stakeholders were involved in the implementation of CBC					
Adequate preparation was done before the implementation of CBC					

The government has provided enough teaching and learning resources to aid the teachers in implementing CBC					
The government has provided adequate physical resources for effective implementation of CBC					
The teaching and learning resources available are of high quality					
The school has adequate infrastructure to implement CBC at all levels					
The school infrastructure (classes, laboratories, offices etc.) is adequate for CBC curriculum implementation					

SECTION C: Adequacy of Physical Resources for Effective Implementation of CBC

11. The following are physical resources that facilitate effective implementation of CBC. Please rate them in terms of the adequacy for effective implementation of CBC in your school. Key: 5. Very Adequate 4. Adequate 3. No Opinion 2. Inadequate 1. Very Inadequate (Please tick appropriately)

Physical Resource	5	4	3	2	1
Classrooms					
Furniture					
Play ground					
Learning/Teaching Aids					
Laboratories					
Land					
Offices					
Textbooks					
Reference books					
Computers					
Computer rooms					
Music rooms					
Toilets					
Water					
Electricity					
Library					
Workshops					
Bookstores					
Nutritional laboratories					

12. To what extent do the following aspects affect effective implementation of CBC in your school? Key: 5. Very Great Extent 4. Great Extent 3. No Opinion 2. Small Extent 1. No Extent. (Tick appropriately)

Aspects	5	4	3	2	1
Inadequate physical facilities					
Inadequate teaching/learning materials					
Lack of adequate textbooks					
Inadequate materials needed for digital literacy learning.					
Unavailability of teaching materials for practical learning					

13. What do you think can be done on physical resources to facilitate effective implementation of CBC?

SECTION D: Availability and Adequacy of Human Resource for CBC

14. Indicate the number of teachers in your school. -----

15. What is the average number of lessons per teacher per week-----?

16. What is the average number of pupils per class-----?

17. Please indicate your level of agreement on the following statement on implementation of CBC. Key: 5. Strongly agree 4. Agree 3. No opinion 2. disagree 1. Strongly disagree (Tick appropriately)

Statement	5	4	3	2	1
We have enough teachers for effective CBC curriculum implementation					
The school has adequate technical/support staff for implementation of CBC					
Teacher pupil ratio in my school has not affected implementation of CBC					
Class size in my school is conducive for the implementation of CBC					
Teachers' workload in my school is balanced for implementation of CBC.					

18. To what extent do the following aspects influence effective implementation of CBC in your school? Key: 5. Very great extent 4. Great extent 3. No opinion 2. Small extent 1. No extent (Tick appropriately)

19.

Aspects	5	4	3	2	1
Inadequate financial resources					
Limited number of staff					
High teacher pupil ratio					
High teacher turnover					
Time allocated not adequate for the CBC lessons.					

20. What can be done on adequacy of human resource for effective implementation of CBC?

SECTION E: Teacher Competencies and Implementation of CBC

21. Please indicate your level of agreement on the following statement on teacher competencies and CBC in your school. Key: 5. Strongly agree 4. Agree 3. No opinion 2. disagree 1. Strongly disagree (Tick appropriately)

Statement	5	4	3	2	1
Teachers were adequately prepared for CBC curriculum					
Teachers were adequately trained how to use digital devices in teaching e.g., computers, smart phones, tablets, laptops					
Teachers in my school understand CBC evaluation techniques					
The teachers can draw effective CBC lesson plans					
Teachers can prepare lesson plans for CBC curriculum					
The school has enough financial resources to support CBC curriculum					
Teachers are well equipped with assessment criteria for CBC					
Teachers are well trained on learning areas for CBC					
Teachers are well trained on how to engage parents for CBC					

22. Please rate your ability and preparedness to infuse the following competences to your learners Key: 5. Very great extent 4. Great extent 3. Note sure 2. Small extent 1. Zero extent. (Please tick appropriately)

Competencies	5	4	3	2	1
Communication and collaboration					
Critical thinking and problem solving					

Imagination and creativity					
Citizenship					
Learning to learn					
Self-efficacy					
Digital literacy					

23. Give Suggests on what can be done on human resources competencies for effective implementation of CBC?

SECTION F: Availability of Financial Resources for Implementation of CBC

24. Please indicate your level of agreement on the following statement on effective implementation of CBC. Key: 5. Strongly agree 4. Agree 3. No opinion 2. disagree 1. Strongly disagree (Tick appropriately)

Statement	5	4	3	2	1
The government has availed adequate financial resources to schools to aid effective implementation of CBC					
Parents have financial ability to support effective implementation of CBC					
The government has provided money for CBC on time					
CBC will increase the financial burden on low income earners					

25. Please indicate your opinion on the level of financial preparedness for effective implementation of CBC by the government. Key: 5. Very great extent 2. Great extent 3. Not sure 2. Small extent 1. No extent. (Plases tick appropriately.)

Statement	5	4	3	2	1
The government capitation is adequate for effective implementation of CBC					
The government capitation for implementation of CBC is disbursed promptly					
Parental financial support is adequate in supporting effective implementation of CBC					
School levies by parents for effective implementation of CBC is paid promptly					

Donor funding is adequate for effective implementation of CBC					
Stakeholders financial support is adequate to ensures effective implementation of CBC					

25. Please indicate your opinion on what can be done on adequacy of financial resources for effective implantation of CBC?

Thank You

Appendix III: Questionnaire for Teacher

My name is Edward Patrick Gitonga Kathuni a post graduate student from Tharaka University College pursuing a Doctor of Philosophy Degree in Education Management. I am undertaking research on Antecedents of Effective Implementation of Competence Based Curriculum among Public Primary Schools in Tharaka Nithi County, Kenya. The finding of this study will be useful to education managers and policies planners in developing policies and strategies for effective implementation of competence based curriculum. Kindly take a few minutes to answer the questions below. The information given will be treated with outmost confidentiality.

SECTION A: Personal Data (*Tick Where Appropriate*)

1. Gender:
Male []
Female []
2. Age bracket:
Below 25 years []
26 – 30 years []
31 – 35 years []
36 – 40 years []
Above 41 years []
3. Academic qualification:
Certificate []
Diploma []
Degree []
Masters []
PhD []
Any other, Specify.....
4. For how long have you worked as a Teacher in Tharaka Nithi County?
Less than 1 years []
1 – 5 years []
6 – 10 years []
Over 10 years []
5. (a). Have you participated in any in-service training for teachers?
Yes []
No []
Not sure []
(b) If yes in the above, was there a component on CBC in the training?
Yes []
No []
Not sure []

6. Do you have training on effective implementation of CBC?

Yes

No

Not sure

7. What is the category of your school?

Public Boarding only

Public Day only

Public Day and Boarding

SECTION B: Effective Implementation of CBC

8. Please indicate your opinion on the following statements about CBC in your school.

Respond by ticking the extent to which you agree or disagree to the following statements. KEY: 5. Strongly Agree 4. Agree 3. Undecided 2. Disagree 1. Strongly Disagree

Statements	5	4	3	2	1
The CBC curriculum is contributing to the achievement of learner's competencies					
The CBC curriculum is enabling learners to acquire values that are useful in the society					
The CBC curriculum is relevant to learners needs					
Teachers are satisfied with the CBC curriculum implementation					
The parents are satisfied with implementation of CBC curriculum					
The CBC is contributing to the development of learner's creativity					
CBC assessment criterion is helping teachers to address gaps in instruction.					
The parents are engaged in CBC learning.					

9. Please indicate your level of agreement on the following statement on CBC in your school. Key: 5. Strongly agree 4. Agree 3. No opinion 2. disagree 1. Strongly disagree (Tick appropriately)

Statement	5	4	3	2	1
All stakeholders were involved in the implementation of CBC					
Adequate preparation was done before the implementation of CBC					
The government has provided enough teaching and learning resources to aid the teachers in implementing CBC					
The government has provided adequate physical resources for effective implementation of CBC					

The teaching and learning resources available are of high quality					
The school has adequate infrastructure to implement CBC at all levels					
The school infrastructure (classes, laboratories, offices etc.) is adequate for CBC curriculum implementation					

SECTION C: Adequacy of Physical Resources for Effective Implementation of CBC

10. The following are physical resources that facilitate effective implementation of CBC. Please rate them in terms of the adequacy for effective implementation of CBC in your school. Key: 5. Very Adequate 4. Adequate 3. No Opinion 2. Inadequate 1. Very Inadequate (Please tick appropriately)

Physical Resource	5	4	3	2	1
Classrooms					
Furniture					
Play ground					
Learning/Teaching Aids					
Laboratories					
Land					
Offices					
Textbooks					
Reference books					
Computers					
Computer rooms					
Music rooms					
Toilets					
Water					
Electricity					
Library					
Workshops					
Bookstores					
Nutritional laboratories					

11. To what extent do the following aspects affect effective implementation of CBC in your school? Key: 5. Very Great Extent 4. Great Extent 3. No Opinion 2. Small Extent 1. No Extent. (Tick appropriately)

Aspects	5	4	3	2	1
Inadequate learning facilities					
Inadequate teaching/learning materials					
Lack of adequate textbooks					
Inadequate materials needed for digital literacy learning.					

Unavailability of teaching materials for practical learning					
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12. What do you think can be done on physical resources to facilitate effective implementation of CBC?

SECTION D: Availability and Adequacy of Human Resource for CBC

Please indicate your level of agreement on the following statement on implementation of CBC. Key: 5. Strongly agree 4. Agree 3. No opinion 2. disagree 1. Strongly disagree (Tick appropriately)

Statement	5	4	3	2	1
We have enough teachers for effective CBC curriculum implementation					
The school has adequate technical/support staff for implementation of CBC					
Teacher pupil ratio in my school has not affected implementation of CBC					
Class size in my school is conducive for the implementation of CBC					
Teachers' workload in my school is balanced for implementation of CBC.					

13. To what extent do the following aspects influence effective implementation of CBC in your school? Key: 5. Very great extent 4. Great extent 3. No opinion 2. Small extent 1. No extent

Aspects	5	4	3	2	1
Inadequate financial resources					
Limited number of staff					
High teacher pupil ratio					
High teacher turnover					
Time allocated not adequate for the CBC lessons.					

14. What can be done on adequacy of human resource for effective implementation of CBC?

SECTION E: Teacher Competencies and Implementation of CBC

15. Please indicate your level of agreement on the following statement on teacher competencies and CBC in your school. Key: 5. Strongly agree 4. Agree 3. No opinion 2. disagree 1. Strongly disagree (Tick appropriately)

Statement	5	4	3	2	1
Teachers were adequately prepared for CBC curriculum					
Teachers were adequately trained how to use digital devices in teaching e.g., computers, smart phones, tablets, laptops					
Teachers in my school understand CBC evaluation techniques					
The teachers can draw effective CBC lesson plans					
Teachers can prepare lesson plans for CBC curriculum					
The school has enough financial resources to support CBC curriculum					
Teachers are well equipped with assessment criteria for CBC					
Teachers are well trained on learning areas for CBC					
Teachers are well trained on how to engage parents for CBC					

16. Please rate your ability and preparedness to infuse the following competences to your learners Key: 5. Very great extent 4. Great extent 3. Note sure 2. Small extent 1. Zero extent. (Please tick appropriately)

Competencies	5	4	3	2	1
Communication and collaboration					
Critical thinking and problem solving					
Imagination and creativity					
Citizenship					
Learning to learn					
Self-efficacy					
Digital literacy					

17. Give Suggests on what can be done on human resources competencies for effective implementation of CBC?

SECTION F: Availability of Financial Resources for Implementation of CBC

18. Please indicate your level of agreement on the following statement on effective implementation of CBC. Key: 5. Strongly agree 4. Agree 3. No opinion 2. disagree 1. Strongly disagree (Tick appropriately)

Statement	5	4	3	2	1
The government has availed adequate financial resources to schools to aid effective implementation of CBC					
Parents have financial ability to support effective implementation of CBC					
The government has provided money for CBC on time					
CBC will increase the financial burden on low income learners					

19. Please indicate your opinion on the level of financial preparedness for effective implementation of CBC by the government. Key: 5. Very great extent 2. Great extent 3. Not sure 2. Small extent 1. No extent. (Plases tick appropriately.)

Statement	5	4	3	2	1
The government capitation is adequate for effective implementation of CBC					
The government capitation for implementation of CBC is disbursed promptly					
Parental financial support is adequate in supporting effective implementation of CBC					
School levies by parents for effective implementation of CBC is paid promptly					
Donor funding is adequate for effective implementation of CBC					
Stakeholders financial support is adequate to ensures effective implementation of CBC					

20. Please indicate your opinion on what can be done on adequacy of financial resources for effective implantation of CBC?

Thank You

Appendix IV: Interview Schedule for SCDE and TSC-SCD

Dear Respondent,

My name is Edward Patrick Gitonga Kathuni a post graduate student from Tharaka University pursuing a Doctor of Philosophy in Education Management undertaking a study on Antecedents of Effective Implementation of Competence Based Curriculum Among Public Primary Schools in Tharaka Nithi County, Kenya. Your sub county is among those selected for the study. Your honest response to the questions posed will be highly appreciated. All your responses and information will be treated with outmost confidentiality and only be used for educational purpose of the study.

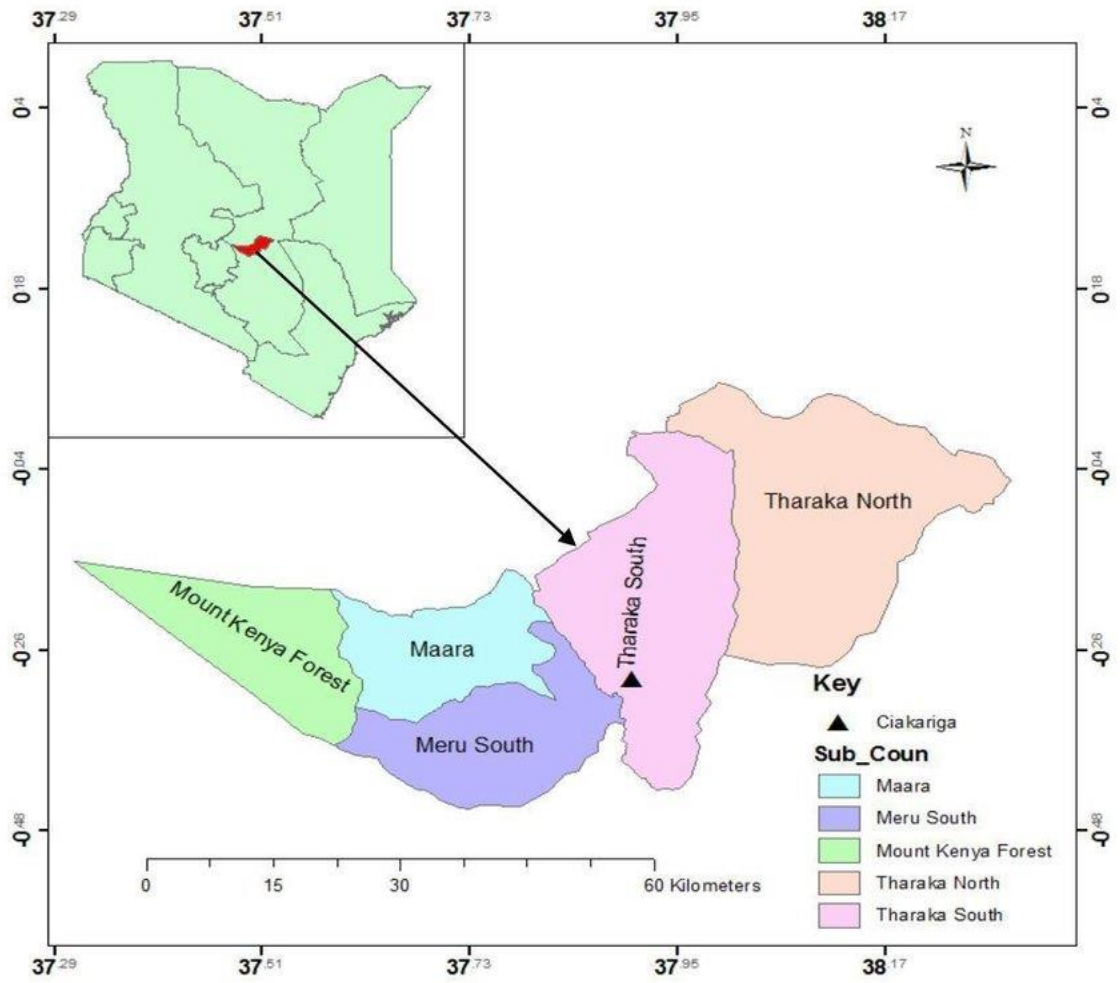
Thank for your anticipated cooperation.

1. How many schools are in your sub county?
2. What would you say about adequacy of physical resources in your sub county?
3. How many teachers are in your sub county?
4. What is the teacher student's ratio in you sub county?
5. What can you say about your teachers' competence as far as implementation of CBC is concerned?
6. What challenges do your teachers face in relation to the implementation of CBC in your sub county?
7. What financial challenges do you face in implementing CBC in your sub county.
8. What can you say about the effectiveness of implementation of CBC?


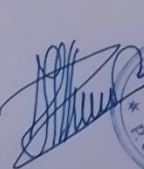

Thank You

Appendix V: Maps Showing Study Area





Appendix VI: Tharaka University Introductory Letter

	THARAKA UNIVERSITY
P.O BOX 193-60215, MARIMANTI, KENYA	Telephone: +(254)-0202008549 Website: https://tharaka.ac.ke Social Media: tharakauni Email: info@tharaka.ac.ke
OFFICE OF THE DIRECTOR BOARD OF POSTGRADUATE STUDIES	
REF: TUN/BPGS/PL/01/23	25 th January, 2023
To Whom It May Concern,	
Dear Sir/Madam,	
RE: INTRODUCTORY LETTER FOR EDWARD PATRICK GITONGA KATHUNI, ADMISSION NUMBER: EDT15/00830/20	
The above named is our postgraduate student undertaking a Ph.D. degree programme in Education Management . The student has finished coursework and is expected to collect data. The title of the research is " <i>Antecedents of Effective Implementation of Competency Based Curriculum among Primary Schools in Tharaka Nithi County, Kenya.</i> " The study will be conducted in Tharaka Nithi County.	
The candidate has defended the proposal successfully at the Faculty and has submitted the required number of corrected copies to the Office of the Director, Board of Postgraduate Studies. The candidate is expected to begin collecting data, analyse and write a report on the findings. The study is expected to be completed by October, 2023.	
Any assistance accorded to him will be highly appreciated.	
Thank you in advance.	
Yours faithfully,	
Dr. Denis Obote, Ph.D. Director, Board of Postgraduate Studies.	 

Appendix VII: Institutional Ethics Review Letter

CHUKA



UNIVERSITY

Knowledge is Wealth (*Sapientia divitia est*) Akili ni Mali
CHUKA UNIVERSITY INSTITUTIONAL ETHICS REVIEW COMMITTEE

Telephones: 020-2310512/18
Direct Line: 0772894438

P. O. Box 109-60400, Chuka
Email: info@chuka.ac.ke,

Website: www.chuka.ac.ke

REF: CUIERC/ NACOSTI 313

25th October, 2022

TO: Edward Patrick Gitonga Kathuni

Dear Sir/madam

RE: Antecedents of effective implementation of competence based curriculum among public primary schools in Tharaka Nithi County, Kenya

This is to inform you that *Chuka University IERC* has reviewed and approved your above research proposal. Your application approval number is *NACOSTI/NBC/AC-0812*. The approval period is 25th October, 2022 to 25th October, 2023.

This approval is subject to compliance with the following requirements;

- i. Only approved documents including (informed consents, study instruments, MTA) will be used
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by *Chuka University IERC*.
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to *Chuka University IERC* within 72 hours of notification
- iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to *Chuka University IERC* within 72 hours
- v. Clearance for export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to *Chuka University IERC*.


Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely


Dr. Benjamin Kanga
SECRETARY

Chuka University is..... Inspiring Environmental Sustainability for Better Life

Appendix VIII: National Commission for Science, Technology and Innovation (NACOSTI) Authorization




REPUBLIC OF KENYA



**NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION**

Ref No: **236759** Date of Issue: **04/January/2023**


RESEARCH LICENSE



This is to Certify that Mr. Edward Gitonga Kathuni of Chuka University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Tharaka-Nithi on the topic: Antecedents of Effective Implementation of Competence Based Curriculum among Public Primary Schools in Tharaka Nithi County, Kenya for the period ending : 04/January/2024.


License No: **NACOSTI/P/23/23035**

Applicant Identification Number: **236759**



**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: County Director of Education Authorization



REPUBLIC OF KENYA
MINISTRY OF EDUCATION
STATE DEPARTMENT OF EARLY LEARNING AND BASIC EDUCATION

Telegrams: "Elimu", Chuka
Telephone: Chuka 630353
FAX: 064 630166
Email: tharakanithicountyedu@gmail.com
When replying please quote:

COUNTY DIRECTOR OF EDUCATION
THARAKA NITHI
P.O. BOX 113-60400
CHUKA.

TNC/ED/RA/GEN/129/90
EDWARD GITONGA KATHUNI
THARAKA UNIVERSITY

10th February ,2023


RE: RESEARCH AUTHORIZATION FOR EDWARD GITONGA KATHUNI ADM NO EDT15/00830/20

I am pleased to inform you that you have been authorized to undertake research on "**Antecedents of Effective Implementation of Competency Based Curriculum among Primary Schools in Tharaka Nithi County, Kenya**" for the period ending 04th January/2024.

On completion of the research, you are expected to give a hard copy and soft of the research report/thesis to this office.

The research Authorization is granted according to all existing rules and regulations in force from time to time and observance of Covid-19 Guidelines and protocols as recommended by the relevant government MDAs.

Good luck!


County Director of Education
Tharaka - Nithi
P. O. Box 113 - 60400
Chuka

Bridget Wambua (Mrs.)
County Director of Education
THARAKA NITHI