

**A STUDY ON THE PREPAREDNESS OF PUBLIC PRIMARY SCHOOLS
TOWARDS SUCCESSFUL IMPLEMENTATION OF COMPETENCY
BASED CURRICULUM IN MWALA SUB-COUNTY, KENYA.**

BY

JOSEPH NYAMAI KYULI

**A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF
EDUCATION IN THE SCHOOL OF HUMANITIES AND SOCIAL
SCIENCES OF AFRICA NAZARENE UNIVERSITY**

FEBRUARY 2024

DECLARATION

I declare that this research report is my original work and it has not been presented in any other university for academic work.

Name: Joseph Nyamai Kyuli

Reg. No: 14S01CMED002

Student's signature:



Date: 3.6.2024

This research report was compiled under our supervision and submitted with our approval as university supervisors.

Supervisor name: Dr. Rebecca Wambua

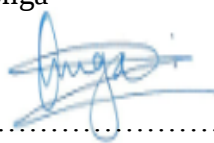
University supervisor signature:



Date: 3/3/24.....

Supervisor name: Prof. Robert Bisonga

University supervisor signature:



Date: 03-03-2024

Africa Nazarene University

Nairobi, Kenya

DEDICATION

This thesis is dedicated to my daughters Immaculate Joseph, Mary Joseph and son Michael Joseph. May this work instill in you the spirit of academic excellence and desire to become indomitable problem solvers in life.

ACKNOWLEDGEMENTS

I wish to acknowledge quite a number of people who contributed to organization and development of this thesis. Thanks to Dr. Rebecca Wambua and Professor Robert Bisonga for their tireless efforts towards guiding my writing. My appreciation is further extended to my younger brother David Kilei who took a lot of his time in proofreading my work.

My earnest gratitude goes to Madam Mary Mbithe Ngui, my supervisor at workplace who sacrificed time in encouraging me to work continually towards completing my research thesis. Indeed, I sincerely congratulate her for having the perception and deep understanding on the ultimate power of education and its incomparable role in the society. It's due to this she always allowed and permitted me to undertake all tasks that deemed relevant towards improving this paper.

Finally, lots of thanks goes to the Mwala Sub-County Education office that introduced me to entire Mwala Sub-County Primary Schools and authorized me to venture into the institutions to collect data for the study. This office too provided crucial information about the number, nature and traits of the schools within the Sub-County. All the headteachers, teachers and my two assistants feel honored for your active contributions during the time of study.

TABLE OF CONTENTS

DECLARATION	ii
DEDICATION.....	iii
ACKNOWLEDGEMENTS	iv
LIST OF TABLES.....	viii
LIST OF FIGURES.....	ix
ABSTRACT	x
OPERATIONAL DEFINITION OF TERMS	xi
ABBREVIATION AND ACRONYMS.....	xii
CHAPTER ONE	1
1.1 INTRODUCTION.....	1
1.2 BACKGROUND OF THE STUDY	1
1.3 STATEMENT OF THE PROBLEM	4
1.4 PURPOSE OF THE STUDY	5
1.5 OBJECTIVES OF THE STUDY	5
1.6 RESEARCH QUESTIONS.....	6
1.7 SIGNIFICANCE OF THE STUDY	6
1.8 SCOPE OF THE STUDY	7
1.9 LIMITATIONS OF THE STUDY	8
1.10 ASSUMPTIONS OF THE STUDY	8
1.11 THEORETICAL FRAMEWORK	9
CHAPTER TWO	16
LITERATURE REVIEW	16
2.1 Introduction	16
2.2 Theoretical Literature Review.....	16
2.3 Competency-based curriculum and its inception in Kenya.....	16
2.3.1 Pedagogical Preparedness among Teachers on the Implementation of Competency Based Curriculum In Public Primary Schools.	18
2.3.2 Availability and Suitability of Teaching Resources in Public Primary Schools for Successful Competency Based Curriculum.....	20
2.3.3 ICT Integration Readiness in Public Primary Schools.....	22
2.3.4 Challenges Facing Teachers and Head Teachers in Implementing Competency Based Curriculum in Public Primary Schools.....	24
2.4 Summary of Literature Review and Research Gaps	28
CHAPTER THREE	31

RESEARCH METHODOLOGY	31
3.1 Introduction	31
3.2 Research design.....	31
3.3 Research site.....	31
3.4 Target population	32
3.5 Study Sample.....	32
3.5.1 Sampling procedure.....	33
3.5.2 Study sample size	33
3.6 Data Collection.....	35
3.6.1 Data Collection Instruments.....	35
3.6.2 Pilot testing of Research Instruments.....	35
3.6.4 Instrument Validity	36
3.6.5 Data Collection Procedures	37
3.7 Data Processing and Analysis	37
3.8 Legal and Ethical Issues	37
CHAPTER FOUR.....	39
DATA ANALYSIS AND FINDINGS	39
4.1 Introduction	39
4.2 Response Rate	39
4.3 Demographic Information of the Respondents	40
4.3.2 Job rank held in the institution	41
4.3.3 Age of the respondents.....	41
4.3.4 Education level.....	42
4.3.5 Length of teaching experience since launch of CBC in Kenya.....	43
4.4 Presentation of Research Analysis and Findings	43
4.4.1 Pedagogical preparedness among teachers.	44
4.4.2 Availability and suitability of teaching and learning resources	47
4.4.3: ICT integration readiness in public primary schools	50
4.4.4 Challenges facing teachers and headteachers.....	53
CHAPTER FIVE	57
SUMMARY OF MAJOR FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS	57
5.1 Introduction	57
5.2 Summary of major findings.....	57
5.3 Discussion of Findings	57

5.3.1 Pedagogical Preparedness among Teachers	57
5.3.2 Availability and Suitability of Teaching and Learning Resources	59
5.3.3 ICT Integration Readiness in Public Primary Schools.....	61
5.3.4 Challenges Facing Teachers and Head Teachers	63
5.4 Conclusions	66
5.5 Recommendations	67
5.6 Areas for Further Research	69
REFERENCES	70
APPENDICES	75
Appendix I: Introduction Letter	75
Appendix II: Questionnaires	76
Appendix III: ANU Letter of Research Authorization.....	82
Appendix IV: NACOSTI Research Authorization Permit.....	83

LIST OF TABLES

Table 3.1: Study Sample Size.....	34
Table 4.2: Response Rate.....	39
Table 4.3: Job rank held in the institution.....	41
Table 4.4: Pedagogical preparedness among teachers.....	44
Table 4.5: Availability and suitability of teaching and learning resources.....	47
Table 4.6: ICT integration readiness in public primary school.....	50
Table 4.7: Challenges facing teachers and headteachers.....	53
Tables 4.8: Measures to be put in place by the Ministry of Education to promote Successful CBC implementation.....	55

LIST OF FIGURES

Figure 1.1: Conceptual framework showing impact of independent and intervening variables on Competency-Based Curriculum.....	14
Figure 4.4: Education Level.....	42

ABSTRACT

As Kenya puts into action the implementation of competency-based curriculum (CBC), the readiness of the environment in which the curriculum is being executed remains questionable. The key stake holders towards the implementation of CBC in the country who include students, teachers, headteachers, Curriculum Support Officers, parents and guardians are faced with quite a number of challenges. Such obstacles are limitations related to teaching and learning resources, infrastructure, large classes, and limited number of teachers, minimal ICT integration and insufficient capitation to schools by the government. The study investigated the preparedness public primary schools towards successful implementation of the competency-based curriculum. The specific objectives of the study were to examine the pedagogical preparedness among teachers on the implementation of Competency Based Curriculum in public primary schools, to establish availability and suitability of teaching and learning resources in public primary schools for successful CBC implementation, to evaluate ICT integration readiness in public primary schools towards successful implementation of CBC and finally to examine the challenges that teachers and headteachers face in the implementation of competency based curriculum in primary schools. The study was based on Howard Gardner's concept of multiple intelligences and Lev Vygotsky's sociocultural theory. An exploratory research design that targeted all the 192 headteachers and 1925 teachers within the public primary schools of Mwala Sub-County was used. To get the sample size for the study, Fisher's formulae: $n = N / \{1 + N(e^2)\}$ for calculating sample size was put into action at 0.05 margin of error. Questionnaires (with open and closed ended questions) were used as data collection tools. Quantitative data was analyzed using descriptive statistics such as percentages, frequency counts and means while qualitative data was thematically analyzed according to the research objectives. The results were presented in prose form and by using frequency table. The research findings established that pedagogical preparedness among teachers was quite minimal as the cumulative mean under this variable was 2.45. The availability and suitability of teaching and learning resources illustrated that there was a deficit and those available were generally not suitable for successful CBC implementation. The study too disclosed that public primary schools were not fully prepared to support ICT integration (Cum. Mean=2.30). Furthermore, study results showed that teachers and headteachers who are the key implementers of CBC face numerous challenges as they strive to implement CBC. The study concluded that minimal pedagogical preparedness among teachers, deficits in teaching and learning resources, unprepared schools' conditions for ICT integration are critical factors affecting successful implementation of CBC among public primary schools within Mwala Sub-County. The study recommended organizing and conducting of more CBC trainings for primary school teachers as supported by 70.03% of the respondents. There is need to provide more teaching and learning resources to Kenyan public primary schools following perception by 82.87% of the respondents. In addition, the study recommended ICT training for public primary school teachers as 51.39% of the respondents disclosed that they had no ICT knowledge. Finally, the study recommended recruitment of more teachers in the primary schools by the Ministry of Education in the Kenyan public primary schools in order to ease the teachers' teaching workload with 54.66% of respondents backing it up.

OPERATIONAL DEFINITION OF TERMS

Competency-based curriculum: It is the education system that replaced the 8.4.4 system of education in Kenya.

Curriculum: Means an expected content and activities of a course of study.

Curriculum implementation: Refers to the part of the curriculum design or development process where the student, with the help of a teacher, does learning activities that help them learn new things and change the way they deal with problems.

Curriculum Support Officer: Refers to an officer who is employed by the government to help teachers and to support them in the implementation of curriculum within a zone.

Head teacher: Refers to a teacher who leads a primary school and is a key element in the implementation of curriculum.

Preparedness: Are measures put in place in the learning institutions to ensure smooth implementation of competency-based curriculum.

School: Refers to a place where pupils and teachers meet to learn.

Teacher: Refers to trained personnel who takes the learners through a formal curriculum.

Remedies: Refers to solutions which must be put in place in order to achieve successful CBC implementation.

ABBREVIATION AND ACRONYMS

BOPGS: Board of Post Graduate Studies.

CATs: Continuous Assessment Tests.

CBA: Competency-Based Assessments

CBA KNEC: Competency-Based Assessment Kenya National Examinations
Council

CBC: Competency-Based Curriculum

CBE: Competency-Based Education

CBTE: Competency-Based Theological Education

CPD: Continuous Professional Development

CRE: Christian Religious Education

CSO: Curriculum Support officer

EAC: East Africa Community

GoK: Government of Kenya

HRE: Hindu Religious Education

IBE-UNESCO: International Bureau of Education- United Nations Educational,
Scientific and Cultural Organization

ICT: Information Communication Technology

IQ: Intelligence Quotient

IRE: Islamic Religious Education

KCSE: Kenya Certificate of Secondary Education

KCPE: Kenya Certificate of Primary Education

KICD: Kenya Institute of Curriculum Development

KNBS: Kenya National Bureau of Statistics

KNEC: Kenya National Examinations Council

NACOSTI: National Commission for Science, Technology & Innovation

PGS: Post Graduate Studies

UNESCO: United Nations Educational, Scientific and Cultural Organization

UNESCO-IBE: United Nations Educational, Scientific and Cultural Organization
International Bureau of Education

USA: United States of America

SBTs: Sector Based Trainers

SRC: Salaries and Remunerations Commission

STEM: Science, Technology, Engineering & Mathematics

TAC: Teacher Advisory Centre

TIE: Tanzania Institute of Education

TSC: Teachers' Service Commission

TTCs: Teacher Training Colleges

TVET: Technical and Vocational Education & Training

ZPD: Zone of Proximal Development

CHAPTER ONE

1.1 INTRODUCTION

This chapter primarily puts focus on the study's background, statement of the problem, objectives of the study, research questions, significance, scope, limitations, assumptions and theoretical framework of the study.

1.2 BACKGROUND OF THE STUDY

Curriculum review is critical in every nation for achieving high-quality education. Since achieving independence in 1963, Kenya has inherited a racially divided colonial education system that has hampered attempts to promote human potential (Onyango, 2020). Following the presidential declaration in 1965, the government implemented a curriculum reform that resulted in the establishment of the 8-4-4 educational system. According to Sifuna and Obonyo (2019), the 8.4.4 curriculum has been in use for three decades. According to Kaviti (2020), the system struggled with insufficient facilities and resources, under qualified teachers, overcrowded classrooms, unskilled graduates, and increased dropout rates. According to Sifuna and Otiende (2009), the 8.4.4 ideology attempted to encourage self-sufficient education but ultimately fell short of that objective. According to

Kaviti (2020), the practical subjects at the focus of the reform have been rendered optional and are not subject to assessment. This loophole permitted teachers to avoid teaching certain courses. The curriculum seemed to be too focused on academics and tests. Minor modifications were made in 1992, 1996, and 2002 to minimize the strain both within and between disciplines. The influence of the 8-4-4 system on graduates in the work field resulted in a lack of skills or credentials to satisfy market needs. According to Kaviti (2020), the 2012 Education Task Force, directed by Professor Douglas Odhiambo, initiated the implementation of a competency-based curriculum. The major goal was to align the education system

with the Kenyan constitution of 2010, the East Africa Community Harmonization Treaty Agreement, and the goals of Vision 2030. The introduction of C.B.C is a fantastic step that should be embraced. The C.B.C curriculum was piloted in 2017 and then implemented in lower primary schools before expanding to upper primary grades. Competency-Based Curriculum (C.B.C.) has been effectively implemented in industrialized countries, notably in vocational education and training.

Implementation of CBC in African countries is encountering obstacles to becoming a reality. Since the early 1950s, the C.B.C. has had a significant impact on industrialized countries' educational systems. Competency-based training teaching was first used in 1970 at a Vocational Teacher Training College in the United States. To demonstrate their progress, trainee teacher students had to demonstrate competency in behavioral terms. The major emphasis was on knowledge, skills, and approaches. The CBTE has been applied in a number of countries, including Australia and Asian nations, and it is quickly gaining momentum in Africa. Competency-based curriculum focuses on equipping students with the desired information, skills, and attitudes rather than emphasizing what they need to acquire (Sifuna and Obonyo, 2019). Competency-based curriculum is an educational strategy that focuses on acquiring certain competencies. Students' success in this course relies on their comprehension and application of the information, rather than on fulfilling deadlines or assignment objectives. The UNESCO International Education Bureau (2017) observes that skill-based education in the United States has been experiencing many transitions for a considerable period. In the US, this teaching method is now known as science-based education. This aligns with the curriculum offered in

Kenyan schools. According to UNESCO IBE (2017), this teaching method is believed to have started in the United States in the late 1800s. According to the UNESCO International Education Bureau (2017), secondary schools, primarily high

schools, are responsible for helping students improve their skills via creating appropriate resources and preparing them for post-graduation life. This field of education is being closely examined in the US because of increasing economic challenges, workforce needs, and national security issues. Canada and France are two more Western countries that use CBC. Kaviti (2020) asserts that some African countries, such as Kenya, Mozambique, Zambia, Zimbabwe, and Rwanda, use CBC. CBC was implemented in Kenya in 2017 at lower levels and then expanded to higher ones. Professor Odhiambo's paper "Reform in Education and Training" from the Education Reform Working Party in 2015, specifically Conference Paper No. 2, facilitated the adoption of the competency-based curriculum (CBC) in Kenya. Transitioning to the Competency-Based Curriculum (CBC) aligns with the educational standards and skills required in the contemporary era in East Africa.

Kenya was granted CBC because due to the inadequate implementation of the 8.4.4 educational skills that ought to focus on self-reliance. Sifuna and Obonyo (2019) assert that the increasing unemployment rate among Kenya's graduates was a factor that led to the adoption of CBC education in the country. The paper highlighted that many theoretical projects failed to consider the needs of businesses and economies, despite the presence of 8.4.4. African countries recognize the need of mastering the competency-based curriculum style but face substantial barriers in implementing it. Mulenga and Kabombwe (2019) identified insufficient student readiness, large class sizes, a shortage of skilled teachers, and a lack of educational resources as challenges hindering CBC's effectiveness in Africa. Due to numerous challenges associated with CBC implementation as highlighted by previous scholars, the researcher saw the dire need to carry out this study to investigate the preparedness of public primary schools towards successful implementation of competency-based curriculum in Mwala Sub-County, Machakos County.

1.3 STATEMENT OF THE PROBLEM

The objective of the competency-based education system in Kenya and any other country is to assist students in selecting a career trajectory that aligns with their personal interests, abilities, and aptitudes. To achieve this, the environment in which CBC is being executed ought to be ready to facilitate smooth implementation of the system. Due to the above-mentioned concern, the researcher was energized to pursue this study to investigate the preparedness of public primary schools towards successful implementation of competency-based curriculum in Mwala Sub-county.

According to research on teacher professional development in Kenya conducted by Momanyi and Rop (2020), loopholes on teachers' preparedness was witnessed. This assertion is substantiated by data obtained from the Kenya Institute of Curriculum Development (KICD) and the Teachers Service Commission (TSC) in 2018. These organizations determined that 3% of educators were adequately equipped to confidently implement CBC, while the remaining 20% were not adequately prepared. Digital literacy is one of the most critical domains of proficiency that the competency-based curriculum emphasizes. This means that for CBC to serve its rationale, it's necessary to have digital knowledge. This is because CBC itself is made to enable learners to be solvers of problems through creating new knowledge through research and discovery. To what extent has grounds for ICT integration laid to aid in achieving this? According to Akala (2021), majority of instructors in Kenya lack the requisite technological expertise to effectively integrate technology into the classroom. The implementation of information and communication technologies (ICTs) in educational institutions is impeded by apprehension, inadequate teacher commitment, and competence (Silas, 2020).

According to Amunga et al (2020), teachers, headteachers and education field officers who include Curriculum Support Officers encounter difficulties when

attempting to implement CBC because of limited resources and enormous class sizes, which can differ considerably between institutions. Particularly in public institutions, inadequate funding for procuring and sourcing resources has hampered the implementation of the CBC. The insufficiency of teaching and learning resources has significantly hindered the implementation of curricula in public primary schools, as opposed to the situation in private schools (Amunga et al., 2020). Despite the transition of the CBC seniors to the ninth-grade level, most public schools in Kenya continue to face a scarcity of these resources. For CBC to be learner-oriented and encourage active engagement in the learning process, it is imperative that learners are provided with adequate access to teaching and learning resources.

1.4 PURPOSE OF THE STUDY

The aim of the study was to investigate the preparedness of public primary schools towards successful implementation of competency-based curriculum in Mwala Sub-County.

1.5 OBJECTIVES OF THE STUDY

In order to serve the above-mentioned purpose, the following objectives were pursued:

- i) To examine the pedagogical preparedness among teachers towards successful implementation of competency-based curriculum in public primary schools within Mwala Sub-County.
- ii) To establish availability and suitability of teaching and learning resources in public primary schools for successful CBC implementation within Mwala Sub-County.
- iii) To evaluate ICT integration readiness in public primary schools towards successful implementation of CBC within Mwala Sub-County.

iv) To examine the challenges that teachers and head teachers face in the implementation of competency-based curriculum in primary schools within Mwala Sub-County.

1.6 RESEARCH QUESTIONS

This study was guided by the following research questions:

- i) How is the pedagogical preparedness among teachers towards successful implementation of competency-based curriculum in public primary schools within Mwala Sub-County?
- ii) Are there available and suitable teaching and learning resources in public primary schools for successful CBC implementation within Mwala Sub-County?
- iii) Is there ICT integration readiness in public primary schools towards successful implementation of CBC within Mwala Sub-County?
- iv) What are the challenges that teachers and headteachers face in the implementation of competency-based curriculum in primary schools within Mwala Sub-County?

1.7 SIGNIFICANCE OF THE STUDY

The findings of the study on the investigation of public primary schools' preparedness towards successful implementation of Competency-Based Curriculum in Mwala Sub-County will be helpful in the following ways:

The Kenya Institute of Curriculum Development may utilize the study results in guiding the development of C.B.C - specific pedagogical tools. Nonetheless, it will significantly contribute towards addressing the gaps in the country's primary school teaching materials production.

Education officials in Mwala Sub-County and across Kenya will make use of the study findings in re-assessing and improving existing curriculum management processes. The findings would persuade the chief school officers, Sub-County director, and other education stakeholders in the Mwala Sub-County in emphasizing continuous and comprehensive professional development for school administrators, teachers, and parents regarding the competency-based curriculum.

The Ministry of Education would benefit from the study's research findings since it will shed light on how the government prioritizes spending money on C.B.C. needs throughout the country. Results of the study would on the other hand help the Teachers' Service Commission (TSC) in hiring and placing instructors in CBC classrooms depending on each school's needs and assigning duties to teachers based on their experience and specialization. The research findings would further help the academia in enriching data collection grounds in times of need especially during times of research.

1.8 SCOPE OF THE STUDY

The focus of the study was to investigate the preparedness of the public primary schools in Mwala Sub-County region, Machakos County. Specifically, the study concentrated on four key objectives which were: to establish availability and suitability of teaching and learning resources in public primary schools for successful CBC implementation, to establish availability and suitability of teaching and learning resources in public primary schools for successful CBC implementation, to evaluate ICT integration readiness in public primary schools towards successful implementation of CBC and finally to examine the challenges that teachers and head teachers face in the implementation of competency based curriculum in primary schools. The target population consisted of 192 head teachers and 1925 teachers. The

sample size for the entire study was 462 respondents. The discussion of the study was constricted within the Howard Gardener's concept of multiple intelligence and Lev Vygotsky's sociocultural theory. Majorly, content for the study was obtained from online journals, previous research materials, textbooks and finally from filled in questionnaires.

1.9 LIMITATIONS OF THE STUDY

The fact that the study involved 166 public primary schools of the entire Mwala Sub-County, it was not easy to visit such a large number of schools and due to this, two research assistants were recruited to help with the field work. Following infrastructural concerns in certain portions of the study site, the researcher had to book motorcycles early in advance to ensure convenient smooth transport. Further, there was a challenge in obtaining data through filling in availed questionnaires by the respondents due to fear that their responses may be exposed to their bosses and face disciplinary actions. To alleviate this, the researcher promised and assured the participants optimal confidentiality and privacy towards handling their responses.

1.10 ASSUMPTIONS OF THE STUDY

It was assumed that there would be few correct responses provided by participants during data gathering time. This was due to the fact that inter-county transfers often aiming at re-routing teachers to their home counties could lead to meeting new groups of teachers in the sampled schools. Such new instructors could face challenges while replying to some questions relating their current work stations due to lack of knowledge about their new environs. To avoid this challenge, the researcher mostly preferred responses from teachers who had served in the selected schools for long. At the time of study, there was an assumption that public primary schools in Mwala Sub-County received adequate resources from the Ministry of Education to effectively implement the Competency-Based Curriculum. Another

assumption during the study was that infrastructure and facilities available in public primary schools in Mwala Sub-County were adequate to support the requirements and demands of the competency-based curriculum, including the integration of technology and provision of diverse learning materials. Lastly, it was assumed that teachers in the public primary schools in Mwala Sub-County had received adequate training to effectively implement competency-based curriculum.

1.11 THEORETICAL FRAMEWORK

The study was built upon the foundation of two theories. It initially adopted the Howard Gardner's multiple intelligence theory. According to Shearer (2020), the concept of multiple intelligence was initially introduced by Howard Gardner in 1983. According to Shearer (2020), Howard Gardner proposed the existence of multiple intelligence as opposed to a single intelligence, contending that people possess a variety of intelligence. A comparable focus on individuality is evident in the Competency-Based Curriculum (CBC). Illustrative instances of such intelligence encompass linguistic, musical, spatial, bodily kinesthetic, intra-personal, inter-personal, and natural intelligence, all of which contribute to a more comprehensive understanding of individuals' capabilities.

As per the Gardener's theory, these abilities are universally present; however, the rationales we assign to them may differ due to genetic predispositions and life circumstances. However, when assessing a student's proficiency, CBC frequently employs a multifaceted methodology. It provides an array of strategies that students can employ to refine their skills. Howard Gardner postulated that individuals do not inherently possess every conceivable intelligence. This notion is known as the multiple intelligence hypothesis. This hypothesis defies the conventional wisdom that general

intelligence, commonly denoted as "g," is a singular form of intelligence, by means of intelligence alone. Howard Gardner classified intelligence into eight distinct categories linguistic, mathematical, physical, inter-personal, musical, body kinesthetic, and general with the intention of expanding our understanding of the concept. Howard Gardner postulated the existence of multiple intelligence, linguistic intelligence being one of them. This particular form of intellect extends beyond mere linguistic proficiency in speaking and writing, encompassing the capability to learn and proficiently utilize foreign languages in order to achieve personal goals.

The capacity for rhetorical or poetic expression is an element of possessing proficient language skills. Proficiency in this field encompasses the linguistic control over structure, semantics, phonology, and syntax. Shearer (2020) posits that individuals possessing these aptitudes are capable of generating written and spoken content as well as conducting data analysis.

Another domain of intelligence that arises from this perspective is mathematical intelligence. This talent encompasses the ability to conceptualize problems, implement mathematical procedures, and analyze scientific subjects. Mathematical proficiency entails faculties including deduction, critical thinking, reasoning, and logic. Spatial intelligence, as postulated, constitutes the third category of intelligence. A profound understanding of the visual and spatial environment is a defining characteristic of spatial intelligence.

Additionally, the feature to modify, oversee, or delete comments is incorporated. Those with high spatial intelligence test scores demonstrate exceptional proficiency in activities such as map reading, sketching, visualizing, and competing.

This hypothesis posits the existence of physical kinesthetic intelligence as the fourth type of intelligence. Shearer (2020) defines body-kinesthetic as the ability to solve problems or create fashion items by utilizing one's entire body or a small portion of it. Individuals with high physical kinesthetic intelligence test scores demonstrate proficiencies in acting, dancing, sports, and body art.

A distinct form of intelligence is the capacity to perceive, comprehend, generate, and exchange musical data. Musical intelligence is indicated by the capability of performing vocalizations, instrumentation, and original composition.

Inter-personal intelligence, provides an individual with the capacity to understand and sympathize with the emotions, objectives, and points of view of those in one's vicinity, is the sixth intelligence. The ability to perceive and respond to individuals constitutes an inter-personal skill. A crucial component is emotional, temperamental, and behavioral sensitivity toward others. Individuals who are effective at establishing connections and communicating possess solid inter-personal skills. Intra-personal intelligence is the seventh type of intelligence, according to Shearer (2020). Students with high intelligence possess the capacity to identify and understand their own internal processes, such as their emotions, aspirations, and targets.

Natural knowledge is, from this perspective, the epitome of wisdom. The capacity to recognize, annotate, and alter real-world patterns is an illustration of this form of intelligence. It includes sensitivity to natural phenomena, such as animals and flora. Individuals with naturalistic intelligence demonstrate exceptional proficiency in the classification of texts discovered in the natural world. A broad spectrum of abilities and energies comprise intelligence; CBC

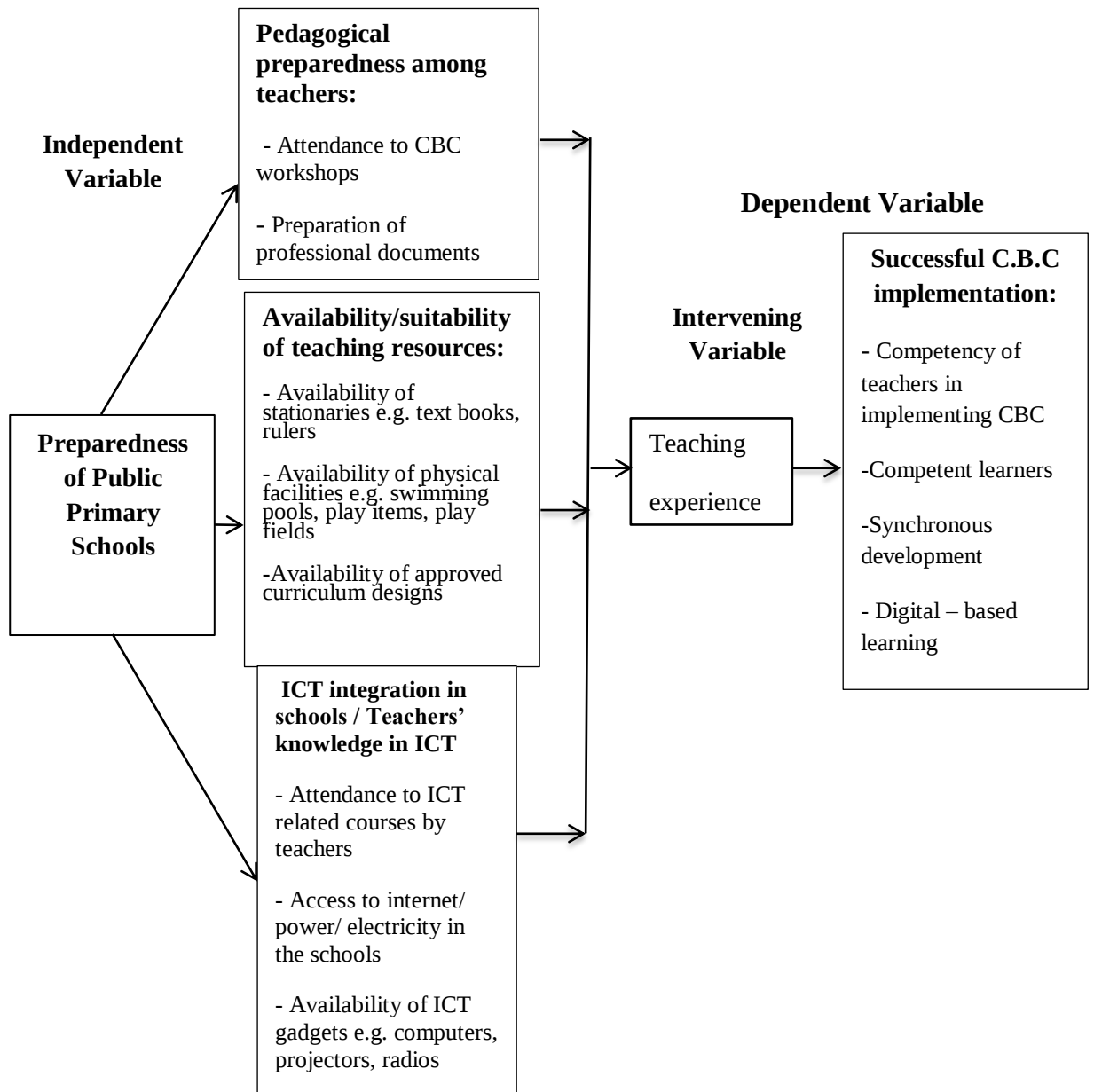
is most efficacious when practitioners possess a comprehensive understanding of the notion of multiple intelligence, which enables individuals to recognize that IQ and scholastic achievement are merely components of the whole Shearer (2020).

This concept is related to CBC as it facilitates the identification of students' unique abilities. They may gain confidence in their abilities and in themselves, as well as recognize prospective career paths that capitalize on their interests and talents. Furthermore, the integration of a multi-intelligence framework into CBC can facilitate the cultivation of a comprehensive and individualized comprehension of the surrounding world among students. This entails considering their distinct backgrounds and the diverse learning modalities that are most effective for them. This perspective is crucial when utilizing CBC. Gardner believes that students who excel in one subject should not be expected to perform well in another. To achieve success, these students necessitate the assistance of language specialists. The identical approach must be applied across all sectors Shearer (2020). This theory seemed of paramount importance when it came to identification of learner's capabilities and talents. Due to this limitation, there was need to employ another theory that would provide nature of conducive learning environment for CBC learners. The environment in which students learn determine their successes in whatever course they are undertaking. Lev Vygotsky's Social-Cultural Development Theory offers a reliable basis and guide on how a CBC rich learning environment should look like.

Lev Vygotsky's Social-Cultural Development Theory therefore becomes the second theoretical framework for this study. Individual development is dependent on the learning environment. According to Vygotsky (1978), a

proponent of the Constructivism Theories, Vygotsky observes, in contrast with a negative learning environment, that an optimal setting facilitates the internalization of concepts at a speedier rate. Teachers in such an environment ought to possess exceptional qualifications, while students ought to have adequate access to study resources. Such a favorable learning environment is what successful CBC implementation requires. The concept of a person's Zone of Proximal Development (ZPD), which refers to the area between their present level of proficiency and their potential with appropriate guidance and support, holds significance for the intended research due to this void (Vygotsky, 1978). A competency-based curriculum entails a progressive development of students' abilities. Human activity, situated within social and historical contexts, is mediated by tools and signals, according to this theory. This implies that material and symbolic objects (tools and signals) that are socially utilized and produced within a culture mediate human behaviors, including thought. Facilitating the student's thought process could entail anything from elucidating the definition of a term to guiding them through the execution of a scientific experiment. A correlation exists between the social and cultural contexts of students and the way in which they reason, implement concepts, and resolve problems (Vygotsky, 1978).

Figure 1.1: Conceptual framework showing impact of independent and Intervening variables on Competency Based Curriculum



Within the conceptual framework given above (figure 1.1), preparedness of primary schools was the independent variable, while successful C.B.C implementation was the dependent variable. In order for public primary schools to be prepared for successful CBC implementation, pedagogical preparedness among instructors, availability and suitability of teaching and learning resources and ICT integration readiness were identified as some of the elements that affect the process.

It's from these elements the indicators in the questionnaires were generated. Mugenda and Mugenda (2013) describe an intervening variable as a factor that influences the functioning of both the dependent and independent variables. Teaching experience was the intervening in the research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature linked to the preparedness of public primary schools towards the implementation of competency-based curriculum in Mwala Sub-County, Machakos County, Kenya.

2.2 Theoretical Literature Review

Critical evaluation of the literature was provided under four sub-headings namely: pedagogical preparedness among teachers towards implementation of competency-based curriculum in schools, availability and suitability of teaching resources in schools for successful implementation of competency-based curriculum, information and communication technology (ICT) integration preparedness in schools with regard to the implementation of Competency-Based Curriculum and finally challenges that teachers and headteachers face in the implementation of competency-based curriculum.

2.3 Competency-based curriculum and its inception in Kenya

Competency-based curriculum focus on providing students with the specific information, skills, and attitudes they are expected to have, rather than just what they need to study (Sifuna and Obonyo, 2019). KICD (2021) elaborates on this concept, stating that competency-based curriculum focuses on acquiring certain competencies via teaching and learning methods. Students' success in a CBC course is based on comprehension and application of information, rather than on fulfilling deadlines or assignment objectives. The UNESCO International Education Bureau (2017) notes that skill-based education in the U.S. has been experiencing many transitions for quite some time. In the US, this teaching method is now known as science-based education. This aligns with the curriculum offered in Kenyan schools. According to

UNESCO IBE (2017), this teaching method is believed to have started in the United States in the late 1800s. According to UNESCO International Education Office (2017), secondary schools, primarily high schools, are responsible for helping students build their skill sets via creating appropriate resources and preparing them for post-graduation life. Moreover, this educational sector is being closely examined in the United States because of increasing economic challenges, workforce needs, and national security issues. France and Canada, along with other Western countries, use competency-based curriculum. Kaviti (2020) asserts that some African countries, such as Kenya, Mozambique, Zambia, Zimbabwe, and Rwanda, use CBC. The capacity building project in Kenya started in 2017 at a basic level and has now expanded to higher levels. Professor Odhiambo's Education Reform Working Group's conference paper "Reform in Education and Training" (2015 Conference Paper No. 2) played a crucial role in the welcoming of competency-based curriculum (CBC) in Kenya. Transitioning to the competency-based curriculum (CBC) aligns with the educational standards and skills required in the contemporary era in East Africa. Kenya turned the CBC way because of the inadequate implementation of the 8.4.4 educational skills that focused on self-reliance. Sifuna and Obonyo (2019) assert that the increasing unemployment rate among Kenya's graduates was a factor that influenced the country to implement CBC education. African countries recognize the need of mastering the CBC style, but face substantial barriers to implementing it. Mulenga and Kabombwe (2019) identified insufficient student readiness, large class sizes, a shortage of competent teachers, and a lack of instructional materials as barriers to CBC's effectiveness in Africa. This proposed research will look into the preparedness of public primary schools towards successful CBC implementation in Mwala Sub-County.

2.3.1 Pedagogical Preparedness among Teachers on the Implementation of Competency Based Curriculum in Public Primary Schools.

Moving from a content-based to a competence-based curriculum requires a shift in teaching methods. Therefore, qualified CBC educators should be the first to ensure that the curriculum is being applied correctly (Kafyulilo and Rugambuka 2012). Teachers must have extensive subject matter expertise, strong pedagogical chops, and the ability to create an engaging classroom climate if they are to be the curriculum's lynchpin (Zeiger, 2018). In addition, KICD (2017) states that teachers should endeavor to include CBC into their lessons and should be well-versed in the appropriate use of teaching methods to facilitate effective and efficient learning.

Jengere (2017) asserts that educators must possess essential teaching abilities in addition to understanding of CBC training and integration if they are to successfully educate pupils in the classroom. The importance of properly preparing teachers is highlighted here. In the context of CBC, instructors should think about how to shift from a teaching role to a learning one and how to measure their students' progress toward learning outcomes (Zeiger, 2018). In a similar vein, Syomwene (2017) emphasized the need of instructors keeping in mind their long-term duty to establish a link between the curriculum and students while they are in the classroom. Therefore, educators need multi-faceted expertise to design effective lessons, assess instructional resources, and choose relevant readings, videos, and other media for their pupils. According to Jengere (2017), a well-thought-out strategy is necessary for the efficient use of CBC. The purpose of a lesson plan is to outline the strategies, topics, resources, time, and place of instruction (Farrell, 2012). The effect of teacher involvement in curriculum preparation on curriculum implementation has been the subject of research. To illustrate the importance of primary school teacher training in implementing the South African curriculum, Mokua (2010) undertook a research to

assess its effect. Teachers were found to have a significant part in the curriculum's implementation, thus it was suggested that they get training on how to effectively prepare lessons for the new curriculum if South Africa's educational objectives were to be met. This incident highlights the need of prioritizing teacher preparation before introducing the new curriculum. So, it's crucial to know how CBC training is provided to Kenyan preschool teachers and how well they can design lessons.

Research by Molapo (2018) demonstrated the new curriculum's actual use by third grade teachers in Limpopo, South Africa, and supported the claim that curriculum training may be an effective procedure. Based on the results of the study, it was found that the majority of third grade instructors lacked the expertise and understanding required to effectively apply the curriculum. Ambei and Kum (2021) looked on elementary school teachers' abilities to deal with CBC in Cameroon. The majority of educators surveyed were unable to define CBC. Teachers who had been trained and had some understanding of how to apply the curriculum nonetheless struggled to execute the material in general, according to the study, because of lack of resources and information on how to utilize temporary resources. The research concluded that those with a stake in Cameroon's educational system needed to be inventive if they wanted to guarantee that their instructors were competent and knew how to apply the curriculum. This research found that CBC implementation might be impacted by instructors' lack of knowledge and abilities. The purpose of the teacher preparation research by Handwe and Mpofu (2017) was to get an understanding of the ability of primary school home teachers in Zimbabwe to create lesson plans based on the newly established third grade curriculum. The results demonstrated that instructors' training was insufficient to address their requirements in developing successful lesson plans. In addition, the findings indicated that the Ministry of Education should provide instructors with shorter courses to fill up any gaps in their

curriculum-related expertise. Teachers should get training on how to adapt their lesson plans to accommodate changes in the curriculum, since these changes may need changing material. Another Zimbabwean research looked at how instructors affected students' performance on school curricula in rural schools (Zhuwale and Shumba, 2017). According to the research, one obstacle to the curriculum's application is instructors' lack of expertise in the subject matter. Training for teachers that works is suggested by this research. All sections of the curriculum must be successful in education, and this emphasizes it even more. Consequently, it is critical to assess the level of CBC training and the capacity of Kenyan school teachers to use these materials into their lessons. Research by Sabola (2017) looked at the elementary school curriculum training of Malawian teachers. Finding out if primary school teachers in certain public and private schools might successfully use CBC was the goal of these investigations. In order to determine whether participants had received CBC training, we asked them to declare it in the survey. In addition, after speaking with the center management about whether or not the school instructors had gotten any training on how to implement the curriculum only 39.4% of educators had proper training to use CBC teaching approaches, while 60.6% of educators were ill-equipped.

2.3.2 Availability and Suitability of Teaching Resources in Public Primary Schools for Successful Competency Based Curriculum

According to Chaudhary (2015) there are various variables that influence curriculum implementation. Such factors include instructors' and students' beliefs, and traditions. To provide an atmosphere conducive to the use of instructional materials, public schools must therefore include physical facilities such as workshops, libraries, classrooms, labs, and playgrounds. Chaudhary (2015) supports

that the availability of excellent information and proper opportunity is linked to the transmission of education.

Akomolafe and Adesua (2016) investigated the physical consequences of the Sage Assessment Initiative in secondary schools in Nigeria's South West Region. A thousand and fifty schools were chosen from three of the six states that participated. The findings revealed a beneficial association between pupils' academic success and physical amenities. As a result, better, more sufficient materials, as well as physical and human resources, help pupils study effectively. The report also suggested that schools ought to be given additional money to enhance the quality and usefulness of their sports facilities. Nturibi (2015) explored how homeschooling affects academic success in public schools in Ruiri, Kenya. The study subjects were 7 administrators, 14 instructors, and 181 pupils from seven primary schools. A descriptive research design was used. The researchers conducted surveys and observations on instructors, tutors, and students. The results showed that classrooms were overcrowded and in poor condition. Most classrooms lacked cement, paint, and plaster. This scenario impairs pupils' learning. This research argues that schools should have strong libraries, which should be enhanced and expanded. Mulenga and Kabombwe (2019) identified insufficient student readiness, large class sizes, a shortage of competent teachers, and a lack of instructional materials as barriers to CBC's effectiveness in Africa.

Kigwilu and Akala (2017) analyzed resource usage in public Kenyan universities. This research investigated how existing physical and pedagogical facilities at Catholic-supported community colleges in Nairobi were used to establish arts and crafts programs. A qualitative study approach was adopted, with one hundred and two pupils and eighteen instructors sampled. The study employed

stratified random selection with four community leaders who agreed to participate. Students and 45 instructors completed a survey, and administrators were interviewed. The study found that educational and training materials were inadequate. These comprised demonstrations, seminars, and experiential instructional resources. The references were not extensive enough, but they were adequate. The findings revealed that there were insufficient books and libraries available for sharing.

2.3.3 ICT Integration Readiness in Public Primary Schools

The use of ICT in education is widely recognized by government and policy makers as a much needed skill in the 21st century. Doing this presents some difficulties. In the study conducted by Waweru (2018) on the availability of ICT facilities in primary schools with a sample of 351 teachers, the results showed that ICT facilities in schools were not sufficient. During the research, most of the teachers stated that they rarely received computer literacy training. It is also clear that the perception of effectiveness of teachers in their 40s is higher than that of teachers in their 30s. Oduor (2018) also states that teachers in primary schools face serious problems in the use of ICT in teaching. This is based on a TSC survey of a selected group of schools and 1,200 respondents. The survey found that 84.2% of respondents acknowledged there were issues with their technology in the classroom. According to Otieno (2020), most schools worldwide had to suspend school classes indefinitely due to the outbreak of COVID 19. This affected approximately twenty million students studying in Kenya. The rate of ICT integration in Kenyan schools at that time appears to have been very low. Oduor (2018) argued that ICT integration in public schools in Kenya is often hindered by lack of ICT equipment, inadequate computer access, and lack of digital transformation in the classroom. A study by Karsenti et al (2012) highlights the challenges hindering the integration of ICT into Kenyan schools. The research that

covered more than 10 schools in Kenya identified lack of ICT equipment, lack of teachers' ICT skills, technophobia among teachers, and teachers' lack of confidence in ICT as the factors contributing to this. ICT competency and knowledge are critical to the success of curriculum implementation. Information and Communication Technology (ICT) is a set of technical tools, equipment, and application support used to enable the accurate and constructive collection, storage, retrieval, use, transmission, modification, and distribution of information. According to Ondimu (2018), ICT, like other technologies, adds to the results of our information and communication processes while also improving the ease and profitability of our lives. ICT in education has the exceptional ability to support and benefit persons in a variety of ways that are related to the educational process and result. As an example, ICT has the ability to reconcile the existing educational system with a society rich in information and knowledge by providing enhanced tools, approaches, and methodologies. Furthermore, the use of ICT challenges established viewpoints and methods to the teaching-learning process. Among the changes is support in transitioning from a broadcast to an interactive learning approach. This enhances students' interest and participation in the educational process. Furthermore, ICT proficiency promotes the transition from an educational style based on the teacher to one centered on the students. Students gain independence and self-direction as they acquire and use information and skills. According to Otieno (2020), by changing the focus from teaching to learning, incorporating ICT into education produces a more participatory and engaging environment for both students and teachers.

Furthermore, ICT shifts instructors' roles from passive knowledge transmitters to facilitators of learning, knowledge navigators or guides, and active co-learners alongside students. In contrast, information and communication technologies (ICT) enable students to take more responsibility for their own education by autonomously

gathering relevant information and knowledge and integrating and spreading that knowledge. It encourages children to identify their academic potential. ICT promotes critical and creative thinking, as well as self-reflection on the learning process. They even set personal goals in order to achieve personal growth and optimize their potential. ICT equips educators for the problems of contemporary teaching and learning. It enables educators to effectively execute their numerous obligations across many areas of education. To summarize, ICT may benefit not only instructors' professional growth and training, but also students' academic achievement via creative acceleration (Ondimu, 2018).

2.3.4 Challenges Facing Teachers and Head Teachers in Implementing Competency Based Curriculum in Public Primary Schools

According to Sifuna and Obonyo (2019), the implementation of CBC in Kenya has not been easy. CBC stakeholders such as head teachers and teachers are confronted by several problems when implementing the curriculum. Competence is a collection of abilities, knowledge, and behaviors that someone must possess in order to do tasks or activities at school and in the workplace (Mosha, 2012). Kouwenhoven (2009) defines competence as the capacity to choose and use an integrated set of knowledge, abilities, and attitudes with the aim to complete a task in a specific situation. In this research, competence is defined as a student's ability to do a certain activity or task to a prescribed degree, emphasizing what they can do rather than what they know. In this context, competency-based curriculum refers to a kind of education that aims to increase learners' ability to learn and execute tasks according to a predetermined standard. A competency-based curriculum includes explicit result affirmations that demonstrate the abilities to be acquired (Mosha, 2012). Competency-based curriculum is not a new concept in educational institutions throughout the globe. The desire for greater responsibility in education and

community engagement in decision-making boosted the notion (Kliebard, 2004). The Competency-Based preparation (CBE) movement, sometimes known as CBC, emerged from teacher preparation courses in the United States in the 1970s (Schilling & Koetting, 2010; Mulder, 2004). This CBE movement developed from the necessity for a curriculum that clearly reflected the challenges, difficulties, and characteristics of a changing society (Kliebard, 2004). CBE was dubbed performance-based teacher education in the 1960s because of its thorough examination of the behavioral components of professional activities (Biemans, 2003). The necessity for enhanced effectiveness and higher productivity in industries prompted consideration of the optimal techniques to do a job (Kouwenhoven, 2009).

Amunga et al. (2020) identify various records created and maintained by instructors in schools as one of the significant problems impeding the seamless implementation of CBC. According to Amunga et al. (2020), the professional records required of a teacher for CBC are significantly greater than the records that a teacher had to produce and keep in the 8.4.4 system. This implies that a teacher will spend a significant amount of time creating and maintaining professional records. This has an impact on his or her ability to concentrate when teaching and directing students in class. This has a significant impact on how much interaction time the instructor needs to have with the student. According to Ondimu (2018), a lack of information, communication, and technology (ICT) skills among a big number of teachers is one of the hurdles to CBC implementation in Kenya. Ondimu (2018) feels that integrating technology into learning helps both students and instructors have access to new ideas and activities. Furthermore, Ondimu (2018) contends that technology may help people uncover new ways to do previously understood activities and explore new levels of knowledge. According to Ondimu (2018), if instructors lack ICT abilities, they may struggle to execute curriculum throughout this technology

time. Mulder (2004) claims that competency-based education became largely connected with behavior, proficiency learning, and modular teaching. In general, the competency-based education movement arose from dissatisfaction with postsecondary education programs, since many schools and universities provided programs with no clear goals in terms of what students were being educated to do or be (Mulder, 2004). Similarly, in Tanzania, CBC has been used in secondary school since 2005. The Institute of school (TIE) conducted a fast survey in 2004 to examine the secondary school curriculum, which paved the way for the implementation of CBC. This survey discovered that the long-established curriculum did not describe the skills needed of students at the conclusion of the course of study, resulting in a shift from a content-based curriculum to a competency-based curriculum. Headteachers and teachers agreed that a lack of in-service training for teachers after the introduction of competency-based curriculum was one of the primary impediments to the curriculum's effective implementation. According to the survey carried out by TIE, 28 teachers (27.45%) said that lack of in-service training limited their pedagogical understanding to incorporate competency-based methods into the teaching and learning process. Although instructors were eager to adopt CBC, the most significant difficulty they encountered was a lack of information and understanding regarding competency-based curriculum. As a consequence, instructors had trouble implementing CBC because they lacked sufficient information and abilities to cope with students' complex learning issues, which, tragically, impacted the country's education quality.

Respondents identified insufficient teaching and learning resources as one of the obstacles instructors experience while adopting competency-based curriculum, which varies by school. Additionally, the professors said that the accessible textbooks and reference materials did not represent the current curriculum.

Furthermore, the textbook material lacked clarification on how to instruct pupils according to the CBC criteria. certain of the heads of the chosen schools observed that certain reference books were of poor quality because they promoted rote learning and cramming rather than comprehension of the information. This is also corroborated by Kahenda and Kiplangat (2019, September 16), who state that study participants identified a lack of teaching resources and overcrowded classrooms as barriers to the adoption of CBC. In terms of numbers, 22 instructors (21.57%) claimed that the number of pupils in their classes exceeded the limiting capacity of the classrooms. During classroom observations, the researcher discovered that the teacher-student ratio in all of the schools assessed varied from 1:80 to 90, with two schools having a ratio of 1:100, despite the fact that these classrooms could only accommodate 45 pupils. In such instances, it was difficult for instructors to successfully use competency-based techniques in the teaching and learning process. Furthermore, the researcher saw that the instructors were overburdened since just one teacher was expected to teach all topics.

Respondents identified student preparedness to embrace learner-centered methods during teaching and learning as one of the barriers to successful CBC implementation. Eight instructors (7.99%) said that children were not ready for the learner-centered approach. When questioned why she depended on the lecture style during classroom observation, one teacher from School A responded that "if you use learner-centered approaches, students think you are not being fair to them because they like to be spoon-fed everything". Because students were not prepared for competency-based teaching and learning beginning in elementary school, it became difficult for them to make the necessary adaptations to satisfy the new curriculum's requirements. According to Amunga et al. (2020), the competency-based curriculum lacks parental support. According to Amunga et al. (2020), the vast majority of

parents whose children are enrolled in the CBC are unaware of the competency-based curriculum. This is because such parents attended the previous 8.4.4 educational system. As a result, it becomes difficult for many parents to assist their children with CBC assignments assigned at school. The only group that understands the system is the parents who participate in the school sector. As a result, implementing the CBC is difficult because parental participation, which is critical in curriculum implementation, is weakened. Parents and guardians serve as co-educators, and their participation is critical to the success of any learning process for their children.

2.4 Summary of Literature Review and Research Gaps

This section highlights a compendium of the literature reviewed in the study and the research gaps. The first part investigated a brief elaboration of competency-based curriculum. It also unfolded CBC inception in Kenya. Further, it has highlighted the pedagogical preparedness among teachers on the implementation of CBC, availability and suitability of teaching resources in public primary schools, ICT integration readiness in public primary schools towards successful implementation of CBC, and finally the challenges facing teachers and head teachers in the implementation of CBC in primary schools. According to the literature, lack of CBC knowledge is identified as one of the contributor of poor CBC implementation.

According to Jengere (2017), educators must possess essential teaching abilities. In addition, Ambei and Kum (2021) conducted a study on teachers' abilities among the elementary school teachers. The results of the study disclosed that majority of educators couldn't even define the term CBC. Furthermore, those teachers who had been trained also struggled a lot to execute the material in general. Handwe and Mpofu (2017) carried out a study on the teacher preparation in Zimbabwe and disclosed that instructors' training was insufficient. Research carried

out by Sabola (2017) on elementary school curriculum training of Malawian teachers found that 60.6% of the educators were ill-equipped with CBC teaching approaches. This is also observed in the research recently carried out. The researcher recommends increased CBC trainings among educators.

The other hindrance for CBC implementation pointed out in the literature is the physical facilities e.g. workshops, libraries, classrooms etc. Akomolafe and Adesua (2016) investigated the physical consequences of the Sage Assessment Initiative in secondary school in Nigeria's South West Regions. From the investigation, results disclosed that students' academic success is directly influenced by physical amenities. In addition, Kigwilu and Akala (2017) investigated how existing physical and pedagogical facilities at Catholic-supported community colleges in Nairobi were used to establish arts and crafts programs. The research findings found that the facilities were inadequate. This result is also similar to outcomes of the recently carried out study. According to most of the scholars quoted in the literature review, slow integration in schools has been linked to inadequate ICT equipment, lack of teachers' ICT skills, technophobia among teachers and lack of confidence in ICT. According to the study recently carried, more factors that determine ICT integration which include availability of power and reliable internet supply were also investigated thus bridging the gap.

Under challenges facing teachers during implementation of CBC, Moulder (2004) quoted lack of in-service for teachers while Kahenda and Kiplangat (2019) highlighted insufficient teaching and learning resources and overcrowded classrooms. Amunga et al. (2020) on the other hand highlighted minimal parental participation as a key challenge affecting CBC implementation in public primary schools in Kenya. The research findings on the challenges facing educators during execution of CBC coincided with those highlighted by Kahenda and Kiplangat

(2019) and Amunga et al. (2020) but differed wholly with what Moulder (2004) recorded. According to Moulder (2004), lack of in-service training for teachers was prominently quoted unlike minimal in-service training of CBC teachers witnessed in this research. This study aimed at investigating the preparedness of public primary schools towards successful implementation of competency-based curriculum in Mwala Sub-County, Machakos County.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter introduces the research technique and methods that were used during the study. Mugenda & Mugenda (2013) define methodology as a structured theoretical examination of procedures used in a particular area of research. This section provides research design, research site, target population, sampling procedure, sample size, data collection instruments, reliability, validity, data collection procedures, data processing and analysis and legal and ethical considerations.

3.2 Research design

The study utilized exploratory research design. Exploratory research design involves investigating a particular phenomenon (Saunders et al., 2012). An exploratory qualitative design was used to explore how prepared public primary schools were towards successful implementation of CBC in Mwala Sub-County. The research also gathered opinions from respondents about what ought to be done in order to attain successful CBC implementation in Kenya.

3.3 Research site

The study was conducted in the Mwala Sub-County region. Mwala Sub County is one of the eight Sub-Counties of Machakos County. The Sub-County has eight zones. Each zone is overseen by a curriculum support officer responsible for implementing government rules and overseeing school operations within their designated area. The Sub-County is mostly rural. The Sub-County has a significant unemployment rate, affecting its population of around 181,000, classified as middle and lower class according to the 2019 census statistics by KNBS. Mwala has an area of 1013.4 square kilometers according to KNBS (2019). Mwala Sub-County was

chosen for the study because it was among the regions where CBC piloting study was carried out. In addition, most of the people rely on part-time work to fulfill their essential requirements. Further, Mwala Sub-County is mostly arid, with two brief rainy seasons annually. This results in low agricultural output, leading to widespread famine in the region.

3.4 Target population

According to Mugenda and Mugenda (2013), the target population is the complete population or group that a researcher wants to examine and analyze. The researcher then constructs a sample frame using this information. The research targeted knowledgeable respondents consisting of primary school heads and teachers in order to gather crucial information on the public primary schools' preparedness on the implementation of competency-based curriculum. The researcher drew the study sample from the entire population of 192 headteachers and 1925 public primary school teachers in Mwala Sub-County.

3.5 Study Sample

According to Mugenda and Mugenda (2013), study sample comprises of a group of individuals from a larger population. There are no standards for sample size in qualitative research since it is determined by what the researcher wants to discover, the goal of the study, and practical issues. The information richness of the samples picked has a greater impact on the validity, meaningfulness, and insights obtained by qualitative investigations. The study was conducted in Mwala Sub-County, Machakos County based on this hypothesis. This is a Sub-County with a significant number of elementary schools, and the goal was to get a comprehensive overview of the CBC implementation.

3.5.1 Sampling procedure

To get the sample size for the study, Fisher's formulae: $n = N / \{1 + N (e^2)\}$ for calculating sample size was put into action at 0.05 margin of error. When compiled, 130 headteachers and 332 teachers were required to participate in the study. To obtain the headteachers' sample, names of all the 192 public primary schools were written on pieces of paper, put in a basket and 130 pieces of paper picked randomly. Out of the 130 schools chosen, 2 teachers (1-from lower primary and 1-from upper primary) were randomly picked giving a total of 260 teachers. From the remaining 62 schools, 36 more schools were randomly picked and 2 teachers (1-from lower primary and 1-from upper) were randomly selected translating to 72 more teachers. As Mugenda and Mugenda (2013) point out, basic random sampling is straightforward to execute and requires no previous knowledge of demographic characteristics. It also eliminates any bias or extraordinary circumstances that might occur from categorizing the population (Mugenda & Mugenda, 2013). According to Creswell (2012), qualitative research focuses on a limited number of samples.

3.5.2 Study sample size

The study sample size used during the study included 130 headteachers and 332 teachers within Mwala Sub-County. The total number of respondents for the entire study was 462. The research population included both sexes, regardless of age or level of education, as well as those with and without impairments who work in education sector. Fisher's formula was computed as follows to obtain the study sample size:

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

a) Number of teachers

Where: n=sample size

N=entire population

E=Margin of error

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

$$n = 1925 \div \{1 + 1925(0.0025)\}$$

$$= 331.18 \sim 332$$

b) Number of headteachers

$$n = 192 \div \{1 + 192(0.0025)\}$$

$$= 129.73 \sim 130$$

c) Total number of respondents:

$$= 332 + 130$$

$$= 462$$

Table 3.1

Study Sample Size			
Population category	Population	Sample	Percentage
Headteachers	192	130	67.7
Teachers	1925	332	17.2
Totals	2117	462	21.8

3.6 Data Collection

3.6.1 Data Collection Instruments

Data was collected using questionnaires with both open and closed questions. According to Taber (2013), questionnaires easily help in getting standardized data. Furthermore, Taber (2013) adds that questionnaires as tools of data collection are cost effective and enable the researcher to gather results quickly. During the study, the researcher and his assistants elaborated clearly any area that required their attention mostly simplifying the language used in the questionnaires. The questionnaires had integrated checklists that respondents ticked accurately.

Responses for open-ended questions were written in the spaces provided in the questionnaires. The questionnaires were distributed during break time, lunch break, or after school hours to minimize disruption to usual instruction and maximize response rates. This data gathering technique was utilized on personnel participating in real CBC implementation. Furthermore, respondents presented their school of thought, highlighted their experience, and expressed fundamental perspectives about the implementation of competency-based curriculum.

3.6.2 Pilot testing of Research Instruments

Four randomly chosen public elementary schools in Mwala Sub-County participated in the feasibility study prior to the commencement of the actual investigation. Some of these schools were also incorporated into the final study. Four headteachers and 8 teachers (one from the lower primary grades and one from the upper primary grades) from each of the selected schools participated in the pilot study. Thus, a grand total of 12 respondents was obtained. The researcher employed two research assistants who first assisted during the pilot study. This was of utmost importance as it acquainted the research assistants with the characteristics and types of data collection instruments that were employed during the actual study period. As

well as familiarizing the researcher with the data collection procedure, the purpose of the pilot study was to assist in establishing and enhancing the validity and reliability of the instruments used for data collection. A pilot study, as stated by Mugenda and Mugenda (2013), furnishes vital data that is utilized not only to estimate the sample size but also to assess every other facet of the primary investigation. This, according to Mugenda and Mugenda (2013), aids in the reduction of superfluous exertion by researchers and participants. In addition, it minimizes wastage of research resources.

3.6.3 Instrument Reliability

Reliability is defined as the degree to which repeated trials of a measurement instrument or procedure produce identical results (Carmines, 1979). As a result, the devised data collection instruments (questionnaires) were evaluated before carrying out planned study to determine whether or not they are capable of producing the desired results across institutions. In research, reliability is of the utmost importance because it enables the investigator to interpret data, predict the values of scores, and establish the boundaries of the relationships between variables. Chronbach Alpha Coefficient was employed to assess the instrument reliability in the pilot study, which was conducted in four randomly selected primary schools.

3.6.4 Instrument Validity

Validity refers to the capacity of research instruments to assess the intended constructs. The reliability of a measurement procedure is a prerequisite for its justifiability. It would be a difficult task to determine which research warrants and which should be entirely disregarded in the absence of reliability and validity (Mattick, 1998). To ensure adequate face validity of the research instruments, the investigator initially ascertained that each query constructed in the questionnaire had a distinct and unambiguous connection to the study's objectives. In order to verify the questionnaires' validity, the researcher enlisted the services of specialists who went

through the questions in the research instruments before the start of the research to ensure achievement of construct validity.

3.6.5 Data Collection Procedures

After the approval of the proposal, the University (Africa Nazarene University) issued an authorization letter to the researcher who then applied for a research permit from NACOSTI. On securing the research permit, the researcher there-after visited the Mwala Sub-County Education Office to seek authorization for conducted research in the area. Afterwards, the researcher made pre-visits to schools identified for research to familiarize and book appointments with the respective head teachers. In some cases, phone calls were applicable in cases where the head teachers were absent from school. The researcher then proceeded to sampled public primary schools and collected data for 2 weeks.

3.7 Data Processing and Analysis

Prior to interpretation, quantitative data was collected, calculated and compressed. Individual variables under this category depended majorly on descriptive statistical analysis methods such as percentages, means, and frequency counts. Analyzed quantitative data was reported using frequency distribution table. In the case of qualitative data obtained through filling the open-ended question in the questionnaires, content analysis was used. Reporting of this nature of data was done through tabulation.

3.8 Legal and Ethical Issues

To ensure the safety and well-being of study participants, the researcher brought attention to ethical concerns in research. According to Stringer (2003), participants' safety must be a primary consideration during and after the study. To attain this, respondents were informed early in advance that they were not obligated to participate in the study and that their decision to do was completely voluntary.

Furthermore, respondents were guaranteed that their data was to be handled with the utmost secrecy. The names, schools, and replies of the people who took part in the study remained unrevealed.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter contains data and findings collected during the study and their analysis. The analysis is based on the research objectives. Prior to this, the response rate and demographic information of the respondents is also captured.

4.2 Response Rate

The research targeted responses from a total of 462 sample participants. Out of the anticipated number, only 397 respondents filled the questionnaires and successfully handed them over to the researcher. Out of these, there were 270 teachers and 127 headteachers. Statistically, the response rate was 85.9% which Mugenda and Mugenda (2003) describe as within an excellent response range for data analysis and reporting. 4.2 below shows the study's response rate.

Table 4.2

Response Rate

Category	Sample Size	Participants	Percentage (%)
Teachers	332	270	81.0
Headteachers	130	127	97.7
Total	462	397	85.9

4.3 Demographic Information of the Respondents

During the study, the researcher purposed to gather background information of the respondents concerning: gender, job rank, age, education level and finally the length of teaching experience since the launch of CBC in the country. More details of the demographic information is captured below.

4.3.1 Gender

The respondents were required to specify their gender in the questionnaire either as male or female. From the results of the study, 239 (60.2%) of the respondents of the study were females while 158 (39.8%) were males. The number of male headteachers was forty while the female ones were eighty seven. This is an illustration that the study witnessed no gender bias. 4.2 below represents gender of the respondents.

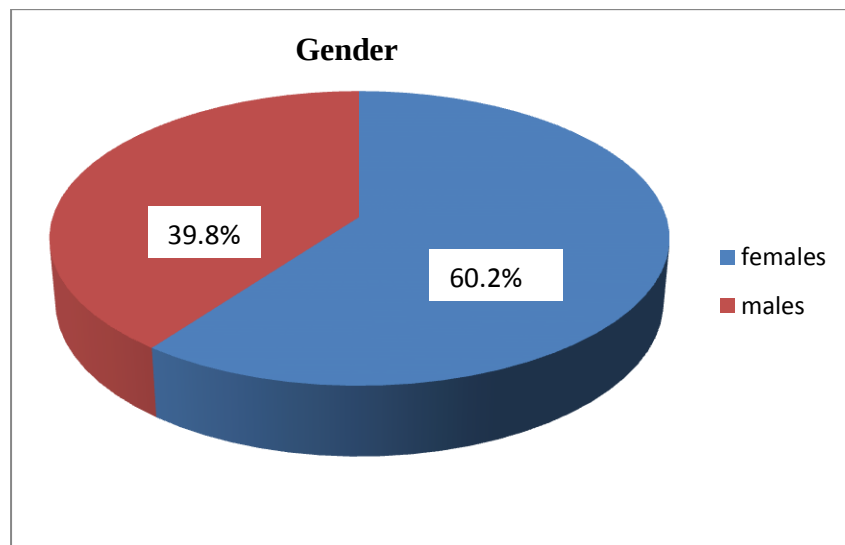


Figure 4.2: Respondent's gender

4.3.2 Job rank held in the institution

The researcher also needed the respondents in the study to identify their job ranks at their place of work. Under this category, the respondent could only fit in the category of headteacher, acting head teacher or teacher. The results were as in the table 4.3 below.

Table 4.3

<i>Job rank held in the institution</i>		
Job rank	Count	Percentage (%)
Headteachers	127	32.0
Teachers	270	68.0
Total	397	100.0

From table 4.3 above, majority of the respondents held positions of teacher (68.0%).

This was followed by headteacher with a percentage of 32.0%.

4.3.3 Age of the respondents

The questionnaires supplied to the respondents prompted them to highlight their age brackets. From the data compiled, the largest of the respondents existed from the age of 41 to 50 years that marked 31.5%. The age bracket of 31-40 years produced 25.7% of the respondents, while the age bracket of 51-60 years and 21-30 had 22.7% and 20.2% of the total respondents. This is represented in 4.4 below.

Table 4.4

Age of the respondents

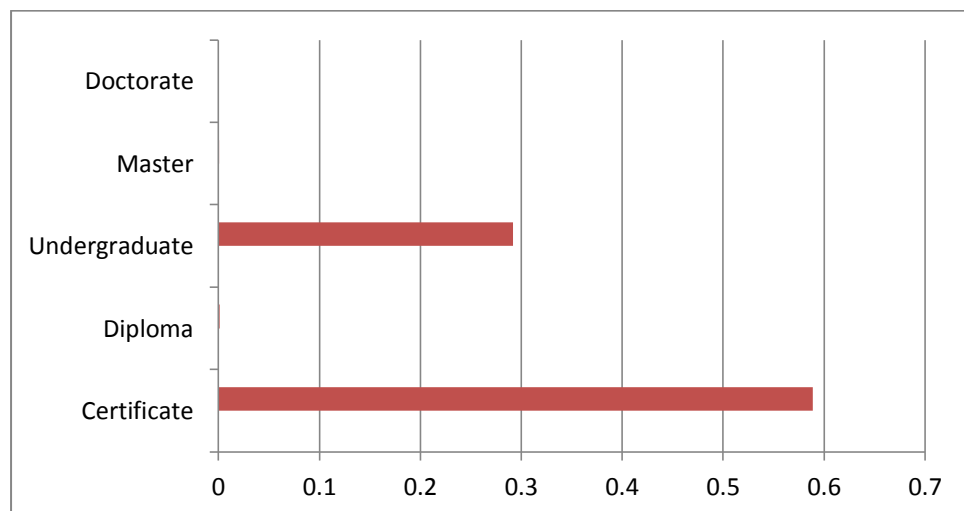
Age Bracket (in years)	Percentage (%)
51-60	22.7
41-50	31.5
31-40	25.7
21-30	20.2

4.3.4 Education level

The results representing education levels showed majority of the respondents were certificate holder having a proportion of 58.9% of the total. 29.2% of the respondents were undergraduates. Those with diplomas occupied 0.12% while master holders were 0.01% and doctorate level had none. This is represented in 4.4 below.

Figure 4.4

Education Level



4.3.5 Length of teaching experience since launch of CBC in Kenya

Under this feature, the respondents were required to provide length of time they had taught since competency-based curriculum was launched in 2017/2018. According to the findings, respondents who had a range of 6 to 8 years were the majority recording 47.9%. 29.5% had their CBC teaching experience ranging from 3 to 5 years while the rest of the respondents occupying 22.7% had an experience of 2 years and below in teaching CBC. This was represented as in 4.5 below.

Table 4.5

Length of teaching experience

Experience levels (in years)	Percentage (%)
6 - 8	47.9
3 - 5	29.5
0 - 2	22.7

4.4 Presentation of Research Analysis and Findings

Descriptive analysis was done on the variables of concern in the study and presented in tables. The analysis was based on the four objectives of the study. To make it precise for data analysis, a 5-point likert scale was used in evaluating the respondent's opinions towards statements developed in the questionnaires. The respondents were supposed to express their levels of agreement or disagreement. In the scale ranging from 1-5, 5 denoted strongly agree, 4 agree, 3 not sure, 2 disagree and 1 strongly disagree. From the scale, scores above 3 represented agreement, scores below 3 meant disagreements, while a score of 3 which is the central-point represented undecided or not sure. Descriptive analysis comprising of frequency

counts, percentages and mean of the variables were analyzed and presented in this section.

4.4.1 Pedagogical preparedness among teachers.

The study sought to establish the extent to which the respondents agreed or disagreed with the statements below about pedagogical preparedness among teachers towards successful CBC implementation. The results in terms of frequency counts, percentages and mean were as presented in the 4.4 below:

Table 4.4

Pedagogical preparedness among teachers.

Statement		SA	A	N	D	SD	Mean
My knowledge of CBC is good	(f)	8	21	40	50	278	1.57
	(%)	2.02	5.29	10.08	12.60	70.03	(31.4)
Teachers in my school have received adequate training on competency-based curriculum (CBC)	(f)	13	50	28	67	239	1.82
	(%)	3.27	12.59	7.05	16.88	60.20	(36.4)
Most teachers in my school are able to prepare the right professional documents for CBC	(f)	23	30	61	72	211	1.95
	(%)	5.79	7.56	15.37	18.14	53.15	(39.0)
More training (s) on	(f)	190	102	35	32	38	3.94

CBC is / are needed	(%)	47.86	25.69	8.82	8.06	9.57	(78.8)
as the							
implementation							
progresses							
Teachers in my	(f)	200	102	23	42	30	4.01
school are struggling	(%)	50.38	25.69	5.79	10.58	7.56	(80.2)
to adjust their							
teaching styles to a							
pupil's individual							
learning style							
I will be able to	(f)	26	45	65	121	140	2.23
ascertain if pupils	(%)	6.55	11.34	16.37	30.48	35.26	(44.6)
have acquired the							
learning outcomes of							
CBC							
My knowledge of	(f)	62	61	42	99	133	2.55
preparing assessment	(%)	15.62	15.37	10.58	24.94	33.50	(51.0)
rubrics for CBC is							
good							
Teachers in my	(f)	38	32	48	157	122	2.26
institution precisely	(%)	9.57	8.06	12.09	39.55	30.73	(45.2)
understand							
differentiated							
learning in CBC							
Teachers in my	(f)	20	18	36	122	201	1.83

school are able to access KNEC-CBA portal and post assessment outcomes	(%)	5.04	4.53	9.07	30.73	50.63	(36.6)
The teachers in my institution are coping up well with CBC execution	(f)	45	60	33	100	159	2.32
	(%)	11.34	15.11	8.31	25.19	40.05	(46.4)
Cumulative Mean	(f) (%)						2.45 (49.0)

The research findings that aimed at gathering data on the objective; pedagogical preparedness among teachers was worthy towards CBC implementation were as follows: 278(70.03) respondents strongly disagreed with the statement that they had good knowledge of CBC. 50(12.60) disagreed, 40(10.08) were not sure, 21(5.29) agreed they had good knowledge of CBC while minority 8(2.02) strongly agreed that they had good knowledge of CBC. Majority (60.20%) strongly disagreed with the statement that teachers in their schools had adequate training on competency-based curriculum. Under the question on whether teachers in their institutions could prepare professional documents majority 211(53.15) strongly disagreed. 47.86% of the respondents strongly agreed that there was need for more training on CBC as implementation of CBC progresses. More than half of the respondents 200(50.38) strongly agreed that teachers in their schools were struggling to adjust their teaching styles to pupil's individual learning style. Under the question of whether one was able to ascertain if pupils had acquired the learning outcomes of CBC, most of the respondents 140(35.26) strongly disagreed. On the issue of

whether one had knowledge of preparing assessment rubrics, the largest portion comprising 33.5% strongly disagreed. On the other hand, majority 157(39.55) disagreed that teachers in their schools could precisely understand differentiated learning in CBC. On the statement of whether teachers in their schools were able to access KNEC-CBA portal and post assessment outcomes, the majority 201(50.63) strongly disagreed. Finally, 159(40.05) who were the majority strongly agreed that teachers in their schools were coping up well with CBC execution. The cumulative mean under the study of the variable: pedagogical preparedness among teachers was 2.45 which generally mean that majority of the respondents disagreed pedagogical preparedness among teachers towards successful implementation of CBC was not worthy.

4.4.2 Availability and suitability of teaching and learning resources

The research sought to establish availability and suitability of teaching and learning resources in public primary schools towards successful CBC implementation within Mwala Sub-County. The researcher requested the respondents to gauge various statements concerning availability and suitability of teaching and learning resources. The findings are shown below:

Table 4.5

Availability and suitability of teaching and learning resources

Statement		SA	A	N	D	SD	Mean
The provision of	(f)	329	34	23	7	4	4.71
teaching/ learning	(%)	82.87	8.56	5.79	1.76	1.00	94.2
resources is							
essential if CBC is							

to succeed							
Large classes in the Kenyan schools has hindered a successful implementation of CBC	(f)	295	30	20	25	27	4.36
	(%)	74.31	3.56	5.04	6.30	6.80	87.2
The implementation of CBC is failing due to inadequate number of teachers posted in Kenyan schools	(f)	350	21	10	9	7	4.75
	(%)	88.20	5.29	2.52	2.27	1.76	95.0
My school is yet to receive all the necessary learning resources for CBC	(f)	313	34	20	16	14	4.55
	(%)	78.84	8.56	5.04	4.03	3.53	91.0
The textbooks supplied for CBC in my school are of low quality	(f)	168	69	40	52	68	3.55
	(%)	42.32	17.38	10.08	13.10	17.13	
In my school, there is an equipped home science room for practicals	(f)	8	9	34	46	300	1.44
	(%)	2.02	2.27	8.56	11.59	75.57	28.8
My school has	(f)	1	3	40	60	293	1.39

adequate Physical Education play items and other facilities e.g. swimming pools, balls, nets, and playfields	(%)	0.25	0.76	10.08	15.11	73.80	27.8
Cumulative Mean	(f)						3.54
	(%)						70.8

From the research findings shown in the table 4.5 above, it's visible that majority 329(82.87) strongly agreed with the statement that provision of teaching and learning resources is essential if CBC is to succeed. Concerning contribution towards the same statement, 8.56% of the respondents agreed, 5.79% were neutral, 1.76% disagreed while 1.00% disagreed. Secondly, on the issue of whether large classes in the Kenyan schools has hindered successful implementation of CBC, majority 295(74.31) of the respondents who were more than half the total number of respondents strongly agreed. The third statement on whether the challenge of implementing CBC was due to inadequate number of teachers posted in Kenyan schools was strongly agreed upon by 350(88.20) respondents. Majority 313(78.84) strongly agreed and supported the statement that their schools had not by then received all the necessary learning resources for CBC. Under the same statement, 34(8.56) agreed, 20(5.04) were not sure, 16(4.03) disagreed and 3.53% of the respondents strongly disagreed. 42.82% of the respondents who were the majority strongly agreed with the fifth statement under availability and suitability of teaching and learning resources that required judgment on the whether textbooks supplied for CBC were of low quality. On the statement of whether there is an equipped home

science room in their school, majority 300(75.57) strongly disagreed. For the last phrase under availability and suitability of teaching and learning resources that needed decision on the fact that their school had adequate physical education play items and other facilities for example swimming pools, balls, nets and playfields 73.80% strongly disagreed, 15.11% disagreed, 10.08% were not sure, 0.76% agreed while 0.25% strongly agreed. The cumulative mean under this variable was 3.54. Therefore, the greatest number agreed that there was lack of teaching and learning materials in public primary schools and those available were not suitable for successful implementation of CBC.

4.4.3: ICT integration readiness in public primary schools

To pursue this variable, the researcher asked the respondents to provide their views on the statements provided below concerning ICT integration readiness in public primary school. The analyzed results are as shown in 4.6 below:

Table 4.6

<i>ICT integration readiness in public primary schools</i>							
Statement		SA	A	N	D	SD	Mean
I have ever attended ICT course	(f)	25	30	27	213	102	2.15
	(%)	6.30	3.56	6.80	53.65	25.69	(43.0)
I have reasonable ICT knowledge through training	(f)	5	10	24	154	204	1.63
	(%)	1.26	2.52	6.05	38.79	51.39	(32.6)
I am able to operate a computer/laptop/smart phone	(f)	54	60	72	80	131	2.56
	(%)	13.6	15.11	18.14	20.15	33.00	(51.2)
I am able to apply ICT knowledge to deliver	(f)	43	51	49	111	143	2.35
	(%)	10.8	12.8	12.3	27.9	36.0	(47.0)

CBC content with ease							
I am able to store	(f)	67	71	53	90	116	2.71
learners' work in							
advisable electronic	(%)	16.8	17.8	13.3	22.6	29.2	(54.2)
storages							
I am able to assess	(f)	21	29	18	102	227	1.78
CBC	(%)	5.29	7.30	4.53	25.6	57.1	(35.6)
content among my							
learners through digital							
means							
I enjoy delivering	(f)	32	41	20	104	200	1.99
CBC content using	(%)	8.06	10.3	5.04	26.2	50.3	(39.8)
digital devices							
My school is	(f)	297	56	19	12	13	4.54
connected to power	(%)	74.8	14.1	4.79	3.02	3.27	(90.8)
grid/any other form of							
power							
My school has quite a	(f)	15	27	64	144	147	2.04
number of functional	(%)	3.78	6.80	16.1	36.2	37.0	(40.8)
desktops / laptops /							
tablets for use by all							
learners							
My school has	(f)	9	12	15	152	209	1.64
functional laptops /	(%)	2.27	3.02	3.78	38.2	52.6	(32.8)
tablets for use by all							
teachers							
My school is	(f)	5	7	3	96	286	1.36
connected to reliable	(%)	1.26	1.76	0.76	24.1	72.0	(27.2)
internet							
My school has	(f)	3	3	15	297	79	1.88
spacious computer lab	(%)	0.76	0.76	3.78	74.8	19.9	(37.6)
All teachers in my	(f)	121	78	42	34	122	3.11
school possess	(%)	30.4	19.6	10.5	8.56	30.7	(62.2)
functional smart							

phones							
My school has	(f)	42	67	34	122	132	2.41
functional projector(s)	(%)	10.5	16.8	8.56	30.7	33.2	(48.2)
Cumulative mean	(f)						2.30
	(%)						(46.0)

Research findings about ICT integration readiness in public primary schools as were captured in 4.6 above show that 213 respondents who represented 53.65% disagreed with the statement that they had ever attended ICT course. Majority 204(51.39) strongly disagreed with the fact that they had reasonable ICT knowledge through training. In addition, 131 respondents who translate to 33.00% strongly disagreed with the statement that they were able to operate computer/laptop/smart phone without problems. Majority of the informants 143(36.02) had a strong disagreement with the statement that they were able to apply ICT knowledge to deliver CBC content with ease. While responding to the phrase that they were able to store learner's work in advisable electronic storage, most of the respondents 116(29.22%) strongly disagreed. Furthermore, majority 227(57.18%) strongly disagreed with the statement that they were able to assess CBC content among their learners through digital means. At the same time, 57.18% of the respondents strongly disagreed that they enjoyed delivering CBC content using digital devices. Schools' connection to power grid/any other form of power attracted 297(74.81) who strongly agreed. When asked about whether their school had adequate functional desktops/laptops/ tablets for use by all learners, the largest percentage of respondents 37.03% strongly disagreed. Responding to an almost similar statement on whether their school had adequate functional laptops/tablets for use by all teachers, more than half of the respondents 209(52.64%) strongly disagreed. The majority of

286(72.04%) of the respondents strongly disagreed with the statement that their school had connection to reliable internet. Teachers who possessed functional smart phones in schools is a statement that saw almost an equal number of respondents contributing towards contradicting opinions in that 122(30.73%) strongly disagreed while 121(30.48%) strongly agreed. Responding to the last statement under this part, 33.25% which is a representation of 132 of the total respondents strongly disagreed. The cumulative mean of the likert scale under this part was 2.30 which portray a disagreement. This precisely shows that there is no readiness for public primary schools to support ICT integration which is key for successful CBC implementation.

4.4.4 Challenges facing teachers and headteachers

To explore through the variable above, the respondents were supposed to express their opinions by ticking against their choice in the checklist about challenges facing teachers and headteachers in implementing CBC in public primary schools within Mwala Sub-County. The findings were illustrated as in 4.7 below:

Table 4.7

<i>Challenges facing teachers and headteachers</i>							
Statement		SA	A	N	D	SD	Mean
The CBC workload among teachers is unbearable	(f)	217	100	8	33	39	4.07
	(%)	54.66	25.19	2.02	8.31	9.82	(81.4)
Teachers in my school prepare CBC professional documents with challenges	(f)	160	122	9	22	84	3.63
	(%)	40.30	30.73	2.27	5.54	21.16	(72.6)
Time allocated for	(f)	134	127	14	22	100	3.44

CBC lessons is enough to cover planned content	(%)	33.75	31.99	3.53	5.54	25.19	(68.4)
Teachers posted in my school lack subject content in the learning areas they teach	(f)	122	97	11	80	87	3.22
	(%)	30.73	24.43	2.77	20.15	21.91	(64.4)
Most teachers in my school lack CBC in-service training	(f)	198	79	76	23	21	4.03
	(%)	49.87	19.90	19.14	5.79	5.29	(80.6)
Teachers in my school incorporate CBC methods in teaching and learning	(f)	34	85	70	112	96	2.62
	(%)	8.56	21.41	17.63	28.21	24.18	(52.0)
Parental support towards CBC implementation is very minimal in my school	(f)	186	102	71	18	20	4.05
	(%)	46.85	25.69	17.88	4.53	5.04	(81.0)
Cumulative Mean	(f)						3.55
	(%)						(71.0)

The table above was generated to show research findings about challenges teachers and headteachers underwent through during implementation of CBC in their schools. Majority of the respondents 217(54.66) strongly agreed that CBC workload among teachers was unbearable with 25.19% of the respondents agreeing with the

same. Concerning the phrase that teachers in their school prepared CBC professional documents with challenges majority 160(40.30) of the respondents strongly agreed. On the question of whether time allocated for CBC lessons was enough to cover planned content, most of the respondents 134(33.75) strongly agreed. 100(25.16) of the respondents strongly disagreed with the statement that time allocated for CBC lessons was enough to cover their planned content. Further, 122(30.73) strongly agreed with the phrase that teachers posted in their school lacked subject content in the learning areas they taught. While responding to the statement on whether most teachers in their school lacked CBC in-service training, 198(49.87) strongly agreed. The question on whether teachers incorporated CBC methods in teaching and learning attracted 112(28.21) citing their disagreement (disagree) with the phrase. The final statement here quoted that parental support towards CBC implementation was very minimal in their school was strongly agreed upon by the respondents; 102(25.69) agreed, 71(17.88) were not sure, 18(4.53) disagreed whereas 20(5.04) strongly disagreed. The cumulative mean on the challenges facing teachers and headteachers was 3.55 meaning majority of the respondents agreed that teachers and headteachers are faced by various challenges as they try to successfully implement CBC.

Table 4.8

Measures to be put in place by the Ministry of Education to promote successful CBC implementation

	Headteachers		Teachers	
	f	%	f	%
Themes that emerged from the responses:				
Organizing and conducting more CBC trainings	119	93.7	259	95.9
Providing more teaching and learning resources	126	99.2	270	100

Recruiting more teachers in public primary schools	122	96.1	262	97.0
Improving qualities of teaching and learning resources for example CBC text books, curriculum designs for CBC	124	97.6	258	95.6
Offering more ICT trainings to teachers	121	95.3	260	96.3

The table 4.8 above shows opinions from headteachers and teachers on measures that the Ministry of Education needs to put in place to promote successful implementation of competency-based curriculum.

From the above table, 93.7% of the head teachers and 95.9% of the teachers agreed that the Ministry of Education needs to organize and conduct more CBC trainings to teachers. Concerning the provision of teaching and learning resources, 99.2% of the headteachers and all the teachers supported that it was necessary to equip and enrich schools with the necessary teaching and learning resources. Recruiting more teachers in public primary schools is an opinion that attracted 96.1% of the head teachers and 97.0% of the teachers.

Majority of the headteachers and teachers applauded the issue of improving the quality of teaching and learning resources for example, CBC text books and curriculum designs. Finally, the perception of 95.3% of headteachers and 96.3% of teachers was that offering more ICT trainings to teachers was necessary.

CHAPTER FIVE

SUMMARY OF MAJOR FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter captures summary of major findings, in-depth discussions of the research findings captured in chapter four. The discussions were done based on the four research objectives. In addition to this, it provides summary of the main findings, conclusions, recommendations and finally highlights areas for further research.

5.2 Summary of major findings

The main items as captured from the research majorly lied under three categories that included: response rate, demographic information of the respondents and finally presentation of research data that put into consideration the four research objectives. Possible measures to be put in place by the Ministry of Education to promote successful CBC implementation were also highlighted according to emerging themes from the responses.

5.3 Discussion of Findings

This sub-section contains detailed discussions of the research findings. The discussions are also linked to the accounts of the academic scholars who contributed to the compiled literature of this thesis. Criticism of these scholars is also evident here.

5.3.1 Pedagogical Preparedness among Teachers

From the results of the research, majority of the respondents 278(70.03) strongly agreed that their CBC knowledge was not good. This means that CBC implementation is being conducted in a pedagogically unprepared environment. This analysis agrees with the argument made by Zeiger (2018) when he quoted that

teachers must have extensive subject matter expertise, strong pedagogical skills and ability to create an engaging classroom climate if they are to be the curriculum's lynchpin. Concerning the question of whether teachers in schools had received adequate training on CBC, 60.20% were the respondents' majority strongly disagreed with the statement. In addition, results obtained in 4.8 where 93.7% of the headteachers and 95.9% of the teachers agreed on the need for the Ministry of Education to organize and conduct more CBC trainings to teachers is backed up by Sabola (2017) who tried to determine teachers' CBC knowledge after participating in CBC training in Malawi by carrying out a study. The results showed that only 39.4% of the teachers gained CBC knowledge while 60.6% was ill-equipped. This means for any curriculum to successfully pick, there is need for prior and adequate training of the implementers. This response matches with the observation made by Molapo (2018) who in a study to investigate how prepared third grade instructors in Limpopo, South Africa were towards execution of their curriculum. The results were similar in the sense that Molapo (2018) found that majority of the grade three teachers lacked expertise and understanding required to effectively apply the curriculum. In the case of responding to teachers' ability to prepare the right professional documents for CBC, 211 respondents (53.15%) which is definitely the majority had a strong disagreement to the statement. This observation closely relates with the findings made by Momanyi and Rop (2020) after undertaking a study on teacher professional development in Kenya. The findings of the study exposed loopholes on teachers' preparedness. The research saw it worthy for more training(s) on CBC to be put in place with majority of the respondents (47.86%) strongly agreeing on this. This outcome closely links to recommendations made by Handwe and Mpofu (2017) after undertaking research in Zimbabwe on how to prepare grade three lesson plans for a newly introduced curriculum. Their recommendation was

that the Ministry of Education ought to provide shorter courses to teachers to fill up any gaps in their curriculum related expertise. By training teachers, handling CBC will gain added knowledge thus enabling them to deliver CBC content without challenges.

The question on whether teachers in schools were able to access the KNEC-CBA portal and upload assessment outcomes for learners attracted 50.63% of the respondents strongly disagreeing which was the majority's choice. This gave us an answer that ICT knowledge was yet to diffuse into most teachers' minds. This is similar to the observation made Ondimu (2018) who found lack of information, communication and technology (ICT) skills seemed one the biggest hurdle to CBC implementation in Kenya. Ondimu (2018) recommendation towards solving this problem was to introduce ICT integration into learning for this will enable students and teachers access innovative ideas and activities. In general terms, the cumulative mean of 2.45 implied that there was a deficit in pedagogical preparedness among teachers in public primary school towards successful implementation of competency-based curriculum.

5.3.2 Availability and Suitability of Teaching and Learning Resources

In the analyzed data findings in table 4.5, the research question of whether there were available and suitable teaching resources for successful implementation of competency-based curriculum in public primary schools within Mwala Sub-County was determined. To start with, the statement on whether provision of teaching and learning resources was essential if CBC was to succeed was strongly agreed upon by 82.87% of the participants in the study. These results co-relate with those Amunga et al (2020) who found that insufficiency of teaching and learning resources significantly hindered the implementation of curricula in public primary schools as

opposed to the situation in private schools. Further, the researcher established that teachers, headteachers and education officers encountered difficulties when attempting to implement CBC as a result of limited resources. This is similar to observations made by Kahenda and Kiplangat (2019) who highlighted lack of teaching resources and overcrowded classes as the barriers to adoption of CBC. By providing teaching and learning resources, the obstacle shall be eliminated thus promoting CBC implementation in schools.

This study also found that large classes in Kenyan schools hindered successful implementation of CBC as agreed upon by 295 of the respondents in the study which translates to 74.32% of the total respondents. This is further backed up by Amunga et al (2020) who supplements the statement by writing that enormous class sizes which differ considerably between institutions had hampered the implementation of competency-based curriculum in Kenyan schools. The study also disclosed that the implementation of CBC is failing due to inadequate number of teachers posted in Kenyan schools. This is disclosed by a very large number of respondents 350 out of 397 supporting this. Further, 96.1% and 97.0% of headteachers and teachers respectively highlighted the need to recruit more teachers in public primary schools. This opinion is in agreement with argument of Mulenga and Kabombwe (2019) who noted that insufficient student readiness, large class sizes, shortage of skilled teachers and lack of resources as the challenges hindering CBC's effectiveness in Africa. By recruiting more teachers in schools will aid in reducing the workload being witnessed by teachers in public primary schools.

Embarking on the statements on whether schools had equipped home science rooms for practicals and necessary physical education play items and other facilities for example swimming pools, balls, nets and play fields the results for the study for

these two areas witnessed strong disagreements with 75.57% and 73.80% respectively responses from the respondents. Both statements concern the issue of teaching and learning resources. These observations go hand in hand with the observations made in the research pursued by Mulenga and Kabombwe (2019) who found lack of educational resources to have a negative impact on CBC's effectiveness in Africa. This is also similar to results of the research launched by Akamolafe and Adesua (2016) who investigated the physical consequences of the SAGE Assessment Initiative in secondary schools in Nigeria's South West Region. In this study too, shortage of physical amenities including sporting facilities was witnessed. Furthermore, the same study by Akamolafe and Adesua (2016) revealed that there is a beneficial association between students' academic prosperity and physical amenities. Therefore, availability of teaching and learning resources which are suitable for learning is an important determinant of learners' success in the implementation of CBC.

5.3.3 ICT Integration Readiness in Public Primary Schools

ICT integration readiness in public primary schools was another variable that the study sought to examine. The research findings were analyzed as in the table 4.6. The questions under this category sought to get opinions about teachers' knowledge in ICT while the second part intended to gather information concerning schools' readiness for ICT integration in terms of equipment, infrastructure and internet connectivity. The questions about respondent's ICT knowledge included an enquiry of whether teachers had ever attended an ICT course. Majority of the responses towards this query was a disagreement that attracted 51.39% of the responses. This implies that for ICT Integration to be conducive in the public primary schools, a lot needs to be done towards nourishing teachers with ICT knowledge. The second statement under this part was to ascertain whether teachers had gained reasonable

ICT knowledge through training. Most respondents strongly disagreed with this. The question of whether teachers were able to operate a computer, laptop or a smartphone got a negative response with majority of the respondents strongly disagreeing. Following an enquiry on the ability of teachers to apply ICT knowledge to deliver CBC content with ease among learners, 36.02% of the respondents strongly disagreed. 29.22% of the responses too strongly disagreed that they were able to store learner's work in advisable electronic storages. Seeking the answer for the question of whether teachers were able to carry out CBC assessment among their learners through digital means, 227 of the participants and who were the majority in the study strongly disagreed. Concerning the ICT knowledge among teachers, the final statement sought to check the ability of teachers to deliver CBC content using digital means. 200/397 of the respondents strongly disagreed with this. All responses about teachers' knowledge for ICT attracted a negative response which generally means a large number of teachers lack ICT related competences. In addition, in 4.8, conducting ICT trainings on teachers is necessary for 95.3% and 95.6% of the headteachers and teachers respectively supported this. This will also assist teachers to know how to log into KNEC-CBA portal, download assessment materials and upload assessment results through the same platform. This suggestion will help in advancing ICT in education thus curbing what Molapo (2018) termed as deficits of Information, Communication and Technology in Kenyan schools.

A similar observation was recorded by Ondimu (2018) who noted that lack of information, communication and technology (ICT) among a big number of teachers is one of the obstacles to CBC implementation in Kenya. These research findings are further supported by Karsenti et al (2012) who highlighted that challenges hindering the integration of ICT into Kenyan schools include lack of ICT equipment, lack of

teachers' ICT skills, technophobia among teachers and teachers' lack of confidence in ICT.

The second part under ICT integration that specifically sought answers regarding schools' readiness to welcome ICT integration included questions concerning the availability of functional electronic devices in schools e.g. desktops, laptops, tablets, smartphones belonging to teachers and lastly projectors. Majority of the responses about all the listed digital devices ranged from disagree to strongly disagree. Other items that were sourced for answers under this part were: Schools' connectivity to power grid/any other form of power, schools' connection to reliable internet and availability of spacious computer laboratories. The responses by majority concerning these three questions were disagreements a part from the issue to do with schools' connectivity to power grid/any other form of power that was strongly agreed upon by majority who comprised of 74.81% of the respondents. The observations witnessed matched with those of Waweru (2018) who took a study on availability of ICT facilities in primary schools with a sample of 351 teachers. The results of the study showed that ICT facilities in schools were insufficient. In addition, the research findings relate closely to argument by Oduor (2018) that disclosed that ICT integration in public schools in Kenya is mostly hindered by lack of ICT equipment, inadequate computer access and lack of digital transformation in the classroom.

5.3.4 Challenges Facing Teachers and Head Teachers

The results analyzing challenges that teachers and headteachers face during the implementation of competency-based curriculum are captured in table 4.7. From the table, CBC workload among teachers was found to be unbearable. This happened due to lack of adequate teachers in schools. When teachers are few, definitely the

number of lessons allocated per teacher goes up. As a result, performance among teachers declines. This observation closely matches to study results obtained by Kahenda and Kiplangat (2019) who identified lack of teaching resources and overcrowded classrooms as barriers to adoption of CBC. During the study, 21.57% of the participants claimed that the number of pupils in their classes exceeded the limiting capacity of 45 learners per classroom. In some CBC classrooms, the teacher-pupil ratio was 1:100. With such a scenario, there will be a challenge in meeting all individual learner learning needs as stipulated in the CBC curricula. In addition to this, the recently carried out research discovered that most teachers in schools made professional documents with challenges. Accurately prepared professional records among teachers boosts proper planning towards teaching. Majority of the respondents 122(30.73) highlighted that time allocated for CBC lessons was enough to cover planned content for their lessons. This meant that time allocated for the respective learning areas was not a great deal to teachers. On the question of whether teachers posted in schools lacked subject content in their learning areas they teach was strongly agreed upon by 30.73% of the participants in the study. This observation highlights that a good number of teachers have not yet mastered CBC learning content. Concerning the issue to do with lack of CBC in-service training, most of the respondents strongly agreed that most of teachers lacked such in-service CBC trainings. This was common in schools with teachers within the age bracket of (21-30) years. According to this observation, unpreparedness among teachers to handle CBC lessons is hereby exposed. Still under the challenges facing teachers and headteachers in the implementation of CBC, 28.21% (majority) of the respondents disagreed with the statement that teachers in their schools incorporated CBC methods in teaching and learning. This goes hand in hand with the observation made by Kahenda and Kiplangat (2019) who supported that when teachers used learner

centred approaches, learners thought that teachers were unfair to them. Lastly, very minimal parental support towards CBC implementation as a challenge facing teachers and headteachers was strongly agreed upon by 186(46.85). This point is also supported by Amunga et al (2020) who highlighted that competency-based curriculum lacks parental support. According to Amunga et al (2020), most parents whose children are enrolled in the CBC are unaware of CBC because many parents attended previous 8.4.4 education system. Still Amunga et al (2020) argue that parents and guardians serve as co-educators and their participation is critical towards success of children. In simple terms, this indicates that when parents fail to support their children in CBC this becomes a challenge to educators in the sense that teachers become the sole checkers of children' assignments.

5.4 Conclusions

The study concludes that pedagogical preparedness among teachers is very crucial towards successful implementation of competency-based curriculum. Elements that favour pedagogical preparedness among teachers include: good CBC knowledge, adequate training on CBC, teachers' ability to prepare the right professional documents for CBC, numerous trainings on CBC, teachers' readiness to adjust teaching styles to a pupils' individual learning styles, teacher's ability to ascertain acquired learning outcomes of CBC, teacher's knowledge to prepare assessment rubrics for CBC, teacher's understanding on differentiated learning in CBC, teacher's ability to access KNEC-CBA portal and post assessment outcomes and lastly coping well with CBC execution.

The study too concludes that availability of teaching and learning materials that are suitable for learning is necessary for successful implementation of competency-based curriculum. Availability and suitability of teaching and learning materials is highlighted by the following indicators: provision of teaching and learning resources, small manageable classes for CBC, adequate number of teachers posted to schools, timely delivery of CBC learning resources, provision of high quality text books for CBC, equipped Home Science rooms for practicals and finally adequate physical Education play items and other sports facilities.

Furthermore, ICT integration readiness in schools is very key if successful implementation of CBC is to be achieved. ICT integration readiness in schools is motivated by ICT trained teachers, teachers' ability to apply ICT knowledge in delivering CBC content, teachers' ability to assess CBC content among learner's, teachers' ability to store learner's work in advisable electronic devices, connectivity of schools to power grid/supply, availability of functional desktops, laptops,

projectors, tablets, spacious computer labs for use by learners and teachers and schools' connectivity to reliable internet.

The study concludes that challenges facing teachers and headteachers affect successful CBC implementation negatively. These challenges include unbearable CBC workload, in-ability to prepare CBC professional documents, lack of subject content by teachers, minimal CBC in-service training among teachers, failure to incorporate CBC in teaching and learning by teachers and finally minimal parental support towards CBC implementation.

5.5 Recommendations

Based on the analysis and discussions of the research findings, the study recommends improvement of pedagogical preparedness among teachers handling CBC grades. This can be done by organizing and conducting more CBC trainings for primary school teachers as the research findings established that most teachers (70.03%) had no good knowledge of CBC. This recommendation is further supported by the study findings that recorded a cumulative mean of 3.94 under the overall pedagogical preparedness. Such trainings should incorporate practical dimensions in order to assist teachers have prior knowledge on the relevant skills most likely in learning areas like creative arts and agriculture and nutrition. This will help in boosting teachers' preparedness in terms of knowledge, content, methodologies in enabling them to handle CBC professionally and without challenges.

In addition, there is need to avail suitable teaching and learning resources in schools. This is catalyzed by the opinion by majority of the respondents (82.87%) that there is need to supply schools with suitable teaching and learning resources if CBC is to be successfully implemented. Such resources include: Computer

Laboratories, Home Science Rooms, Physical Education facilities, Revised CBC text books. This will aid in advancing teachers confidence to handle CBC practical lessons and limit cases where some lesson strands would go untaught due to lack of such resources. The need for this is clearly depicted by the respondent's outcome of 73.80% strong disagreement on the fact that most public primary schools had no physical education facilities which included balls, swimming pools, nets and play items.

Further, the study recommends ICT training for public primary school teachers alongside the usual CBC teacher trainings. This will aid in preparing schools' environment for ICT integration. The study findings showed that 51.39% of the teachers had not attended any ICT course. On the same issue, 95.3% of head teachers and 96.3% of teachers supported offering more ICT trainings to teachers as one of the measures that the Ministry of Education ought to implement in order to promote technological skills among educators. By doing so, teachers would be enlightened on ICT matters. This will help such teachers to integrate ICT in delivering CBC content to learners. Such knowledge will also enable teachers to gain experience on how to assess learners and also post the scores to KNEC online through the KNEC-CBA Portal. There is need for primary schools to sensitize parents about CBC and its rationale, their duty towards implementation of CBC and the importance of working as a team with teachers. This will reduce teachers' burden in teaching since parents would have provided their children with locally available learning aids, tools, equipment and also assisting their children in take away assignments that may require their attention.

Finally, the challenges facing teachers and headteachers towards successful implementation should be minimized. Such challenges comprise of unbearable CBC

workload in schools that became prominent following 54.66% of the respondents backing it up. In addition, 96.1% of the headteachers and 97% of teachers supported recruitment of more teachers in public primary teachers. To cater for this the researcher recommends the Ministry of Education to recruit more teachers in primary schools of Kenya. Once accomplished, this will ease teachers' teaching workload. In addition, teachers will have time to attend all learners' needs thus making CBC implementation better.

5.6 Areas for Further Research

The study aimed at investigating the preparedness of public primary schools towards successful implementation of competency-based curriculum in Mwala Sub-County. The study recommends further investigation to be carried out on challenges facing the implementation of competency-based curriculum in public primary schools. In addition to this, more research needs to be done on the effect of pedagogical preparedness on the implementation of competency-based curriculum in public primary schools. Further, a study on factors affecting ICT integration in public primary schools is worthwhile to be carried out. Finally, a study on investigation on the role played by ICT towards effective CBC implementation in public primary schools.

REFERENCES

- Akala, B. M. (2021). *Revisiting education reform in Kenya: A case of Competency Based Curriculum (CBC)*. *Social Sciences & Humanities Open*, 3(1), 100107.
- Akamolafe, O; Adesua, V. (2016). *The impact of physical facilities on students' Level of motivation and Academic performance in South West Nigeria*. Logos. University of Ilorin, Nigeria.
- Ambei, M., & Kum, N. (2018). *The Competency Based Curriculum Implementation: The Perspective of Teachers use of Resource* International Journal of Trend in Scientific Research and Development (IJTSRD), 2(4), 41 – 59
- Amunga, J., Were D., & Ashioya, I. (2020). *The Teacher-Parent Nexus in the Competency Based Curriculum Success Equation in Kenya*. International Journal of Education Administration and policy studies, 12(1), 60-76.
- Biemans, H.J.A. Poell, R. Nieuwenhuis, A.F.M. & Mulder, M. (in press). Investigating competence-based education in The Netherlands: backgrounds, pitfalls and implications. Paper ECER 2003. Wageningen: Education and Competence Studies.
- Carmines, E. G. & Zeller, R. A. (1979). *Reliability and validity assessment* Beverly Hills: Sage.
- Chaudhary, G.K; Kalia, R. (2015). Development Curriculum and Teaching Models of Curriculum Design for Teaching Institutes. *International Journal of Physical Education, Sports Health*, 57-59
- Creswell, J.W. (2012). *Research design: A quantitative, qualitative, and mixed method approaches (3rd ed.)*. Thousand Oaks CA: Sage.
- Farrel, T.S.C. (2012). *Novice-Service Language Teacher Development: Bridging the Gap between Preservice and In-Service Education and Development*. TESOL Quarterly, 46, 435-449. <https://doi.org/10.1002/tesq.36>
- Feruzi, S.M; & Yang, L ;(2019). *Teachers' position on implementing competence based curriculum in Tanzania: Adoption of the first framework*. International Journal of Research and Innovation in Social Science, 3(9), 411-416.
- Fowler, H. (2011). *Oxford English Dictionary*. Oxford University Press. London.
- Gardner. (2000). *The disciplined mind: What all students should understand*. New York, NY: Simon & Schuster.
- GoK. (2023). *Report of the Presidential Working Party on Education Reform* Nairobi: Government Printer.
- Hwande, E., & Mpofu, J. (2017). *The preparedness of primary schools to implement the grade 3 new curriculum in Zimbabwe: Case study of Bulawayo*

- metropolitan primary schools*. European Journal of Social Sciences Studies, 5(1), 9 - 19
- Jeng'ere, (2017). *The Why, What and How of Competency Based Curriculum Approaches in Tanzania*. Arusha Italic.
- Kafyulilo, A.C., & Rugambuka, B.I. (2012). *The Implementation of Competence Based Teaching Approaches in Tanzania* Makerere Journal of Higher Education, 4(2).
- Kahenga, M., & Kiplangat, R. (2019, September 16). *Expect no written tests as grade 3 pupils get assessed*. The Standard.[standardmedia.co.ke/education/article/2001342064/expect-no-written-tests-as-grade-3-pupils-get-assessed](https://www.standardmedia.co.ke/education/article/2001342064/expect-no-written-tests-as-grade-3-pupils-get-assessed).
- Karsenti, T; Collin, S; Harper- Morrett, T. (2012).Pedagogical integration of ICT: *Success and challenges from 100+ Africa schools*. IDRC. <http://www.org/panaf/IMG/pdf/book-ict-pedagogical-Integration-Africa.pdf>.
- Kasomo, D. (2010). *Research Methods in Humanities and Education*. Moldova: LAP LAMBERT Academic Publishing.
- Katam, E. J. (2020). Dynamics in the Implementation of Competency Based Curriculum in Lower Primary Schools and Implications on Learning in Kenya.
- Kaviti, L. (2020). *The New Curriculum of Education in Kenya: Linguistics and Education paradigm shift*. University of Nairobi.
- Kenya Institute Curriculum Development. (2017). *Basic education curriculum Framework*. Nairobi: Government Printer.
- Kenya Institute Curriculum Development. (2021). *Curriculum Designs*. Nairobi: Government Printer.
- Kenya institute of curriculum Development. (2021). *CBC-implementation Process*. Retrieved 18 April 2021, from <https://kicd.ac.ke/wp-content/uploads/2019/08/cbcimplementation-process.pdf>
- Kigwilu, P. & Akala, W.J. (2017).Resource Utilization and Curriculum Implementation in Community Colleges in Kenya. Nairobi: KIPPRA.
- Kliebard, H. M. (2004). *The struggle for the American curriculum: 1893-1958*. New York: Rutledge Falmer.
- KNBS. (2019). *2019 Kenya Population and Housing Census: Volume II*. Nairobi: Government Printer.
- KNUT, (2019). Influence of Teachers Preparedness on Implementation of Competency Based Curriculum in Primary Schools in Kenya.

- Komba, C.S; & Mwandanji, M. (2019). *Reflections on the Implementation of Competence Based Curriculum in Tanzania Secondary school*. Journals of Education and Learning 4(2), 73-80.
- Kouwenhoven, G.W. (2009). *Designing for competence: towards a competence based curriculum for the faculty of education of the Eduardo Mondlane University Doctoral dissertation*. Enschede: Twente University.
- Mattick, R. P., & Clarke, J. C. (1998). *Development and validation of measures of social phobia scrutiny fear and social interaction anxiety*. Behavior Research and Therapy, 36(4).
- Mokua, B. (2010). *An Evaluation of the Curriculum Development Teachers as key agents in Curriculum Change*. (Unpublished Master of Education Thesis, North-West University, Potchefstroom).
- Momanyi, J. M., & Rop, P. K. (2020). *Teacher preparedness for the implementation of competency based curriculum in Kenya: A survey of early grade primary school teachers' in Bomet East Sub-County. The Cradle of Knowledge: African Journal of Educational and Social Science Research*, 7(1), 10-15.
- Mosha, H. J. (2012). *A case study of learning materials used to deliver knowledge and skills or competency-based curricula (in Tanzania)*. Association for Development of Education in Africa (ADEA)
- Molapo, M.R. (2018). *Politicising curriculum implementation: The case of primary school*. South African journal of education, 38(1), 41-56.
- Mugenda, A. & Mugenda, O. (2013). *Research Methods: Quantitative and Qualitative Approaches*. Nairobi: ACTS Press.
- Mulenga, I.M., & Kabombwe, Y.M. (2019). *Understanding a competency based curriculum and education: The Zambian perspective*.
- Muneja, M. S. (2015). *Secondary school teachers' implementation of the competency-based curriculum in the Arusha Region, Tanzania*: University of South Africa
- Mulder, M. (2004). *Competence based performance. On training and development in the agri- food complex*. Wagenngen: Wagenngen University.
- Nturibi, R. (2015). *Influence of school infrastructure on Academic Performance in public primary schools*. Nairobi: U.N Printer.
- Oduor; A. (2018). TSC worried by teachers' low mastery of Subjects, lateness. *The standard*.[https://www.standardmedia.co.ke/education/article/2001287028/tsc-worried-by-teachers-low mastery-of-subjects-lateness](https://www.standardmedia.co.ke/education/article/2001287028/tsc-worried-by-teachers-low-mastery-of-subjects-lateness).

- Olesen, V. (1979). *Reform of Professional Practice*. In: Grant, G., P. Elbow, T. Ewens, Z. Gamson, W. Kohli, W. Neumann, V. Olesen and D. Riesman. On Competence. London: Jossey-Bass Publishers. p 199- 223
- Olesen, V. (1979). *Reform of Professional Practice*. In: Grant, G., P. Elbow, Ewens, Z. Gamson, W. Kohli, W. Neumann, V. Olesen and D. Riesman. On Competence. London: Jossey-Bass Publishers. p 199- 223
- Ondimu, S. M. (2018). *Teachers' preparedness for Implementation of the Competency Based Curriculum in private pre-schools in Dagorreti North Sub-county*. Nairobi City County: University of Nairobi.
- Onyango, P. (2020, May 15). *TSC says Kenya in dire need of 50,000 teachers*. *Daily2 Nation*. p.4
- Otieno, D. (2020). *Integrating Digital Literacy in Competency Based Curriculum*. Nairobi: Kenyatta University Press.
- Otieno, R. (2019, May 21). *Sossion: Why we are opposed to CBC*. *Standard*. p.12
- UNESCO. (2017). *World Education Forum 2017: Incheon declaration, Education 2030: Towards inclusive and equitable quality Education and lifelong learning for all*. Geneva: UNESCO.
- UNESCO IBE (2017). *Competency-based curriculum and curriculum autonomy in the Republic of Korea by Keunho Lee, Working Papers on Curriculum Issues No 12*. Geneva: UNESCO
- Urunana, R. (2018). *Implementing CBC: Successes and challenges*. Kigali: Rwanda Issue 006 July, 2018.
- Sabola, B.C. (2017). *Managing the Implementation of a School Curriculum in Malawi: Challenges and Policy Implications*. *Textile Int J Manag*, 3(2), 1-2.
- Saunders, M., Lewis, P. and Thornhill, A. (2012). *Research Methods for Business Students*. Harlow: Pearson Education Ltd.
- Schilling, J. F., & Koetting, J. R (2010). *Underpinnings of competency-based education*. *Athletic Training Education Journal* 5(4), 165-169
- Shearer, B. (2020). *Multiple intelligences developmental assessment scale*. Kent, OH: *Multiple Intelligences Research and Consulting*.
- Stringer, E. (2003). *Action Research in Health*. Texas A&M: Pearson.
- Sifuna, D.N & Obonyo, M. (2019). *Competency-Based Curriculum in Primary Schools in Kenya –Prospects and Challenges of Implementation*. *Journal of Popular Education in Africa*. 3(7), 39-50.
- Sifuna, D. N & Otiende, J.E., (2009). *An Introduction History of Education*. Nairobi: University of Nairobi Press.

- Silas, H. D. (2020). *Teacher Related Factors Influencing Implementation Of Competency Based Curriculum at Lower Primary in Luanda Sub-County, Vihiga County Kenya*. UoN,
- Smith, K. (1996). *Environmental hazards: Assessing risk and reducing disaster*. London: Routledge.
- Syomwene, A. (2017). Factors Affecting Teachers Implantation of Curriculum Reforms and Educational Policies in Schools. *The Kenyan Experience* . *Journal of Education and Practice*, 4(22), 80-86.
- REB, (2015). *Competence-based curriculum: Curriculum framework: Pre-primary to upper secondary 2015*. Kigali: Rwanda Education Board.
- Taber, K.S. (2013). *Classroom-based Research and Evidence-based practice: An introduction* (2nd ed.) London: Sage.
- Teachers' Service Commission (2015). *Handbook on decentralized teacher management functions*. Nairobi: Government.
- TSC, (2019). *Career Guidelines for Curriculum Support Officers (CSOs)*. Nairobi: Government Printer.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Waweru, J.W. (2018). *Influence of Teacher Preparedness on implementation of Competency Based Curriculum in Public Primary Schools in Nyandarua North Sub-County, Kenya*. University of Nairobi.
- Zeiger, S. (2018). *Role of Teachers in Curriculum Process*. Demand Media.
- Zhuwale, C., & Shumba, M. (2017). Factors Limiting Smooth Implementation of New Curriculum in Rural Secondary Schools of Zimbabwe: Case Study of Nyanga North Area, Zimbabwe. *The International Journal of Humanities and Social Studies*, 6(11), 23-36.
- Zulu, C. (2015 April 27). New School Curriculum to Empower Learners *Times of Zambia*. p.1

APPENDICES

Appendix I: Introduction Letter

Joseph Nyamai Kyuli,
P.O. Box 46-90101,
Masii.

22nd May, 2024

Dear Respondent,

I am Joseph Nyamai Kyuli, a student at Africa Nazarene University doing a Master of Education Degree and carrying out a research on ‘Preparedness of public primary schools towards successful implementation of competency-based curriculum in Mwala Sub-County, Machakos County’. This is in partial fulfillment of the degree requirement. You have been selected as a respondent to aid in dispensing relevant information for the study. I therefore kindly request you to reserve a few minutes in filling the attached questionnaire. Please, respond to all questions honestly. Information provided in the questionnaire shall be used for academic purposes and shall be treated with optimal confidentiality. Due to this, you are requested not to write your name or any other form of writing suggesting your identity. Your involvement in the study shall be of paramount help in this study. Thanks in advance for your cooperation.

Yours sincerely,

Joseph N. Kyuli

14S01CMED002

Appendix II: Questionnaires

The aim of this questionnaire is to gather data on “the preparedness of public primary schools towards successful implementation of competency-based curriculum in Mwala Sub-County”. The researcher guarantees you that the data collected will be treated with maximum confidentiality and for academic matters only. Please tick (✓) where appropriate or fill in the required information by writing in the spaces provided in the questionnaires.

Part A: Demographic features

Gender

Male []

Female []

Job rank held in the institution

Headteacher []

Deputy Headteacher []

Teacher []

Age in years

21-30 []

31-40 []

41-50 []

51-60 []

Education level

Master degree []

Bachelor's Degree []

Diploma []

Certificate []

Doctorate []

Please specify the level you teach.

Lower primary [] Upper primary []

Length of teaching experience in years (Since launch of CBC)

0-2 []

3-5 []

6-8 []

**Part B: Pedagogical preparedness among teachers towards successful CBC
implementation in public primary schools**

The checklist below shows a number of statements concerning Pedagogical preparedness among teachers towards successful CBC implementation in public primary schools. Kindly indicate the extent to which you agree or disagree with each of the statements indicated. Use the likert scale below to respond. **SA (5)** – Strongly Agree; **A (4)** – Agree; **N (3)** – Not Sure; **D (2)** – Disagree; **SD (1)** – Strongly Disagree

Pedagogical preparedness among teachers towards successful CBC implementation	5(SA)	4(A)	3(N)	2(D)	1(SD)
My knowledge of CBC is good					
Teachers in my school have received adequate training on competency-based curriculum (CBC)					
Most teachers in my school are able to prepare the right professional documents for CBC					
More training (s) on CBC is / are needed as the implementation progresses					
Teachers in my school are struggling to adjust their teaching styles to a pupil's individual learning style					
I will be able to ascertain if pupils have acquired the learning outcomes of CBC					
My knowledge of preparing assessment rubrics for CBC is good					
Teachers in my institution precisely understand differentiated learning in CBC					
Teachers in my school are able to access KNEC-CBA portal and post assessment outcomes					
The teachers in my institution are coping up well with CBC execution					
Cumulative mean					

Part C: Availability and suitability of teaching and learning resources in public primary schools for successful implementation of competency-based curriculum.

The checklist below shows a number of statements concerning availability and suitability of teaching and learning resources in public primary schools for successful CBC implementation. Kindly indicate the extent to which you agree or disagree with each of the statements indicated. Use the likert scale below to respond. **SA (5)** – Strongly Agree; **A (4)** – Agree; **N (3)** – Not Sure; **D (2)** – Disagree; **SD (1)** – Strongly Disagree

Availability and suitability of teaching and learning resources	5 (SA)	4 (A)	3 (N)	2 (D)	1 (SD)
The provision of teaching/ learning resources is essential if CBC is to succeed					
Large classes in the Kenyan schools has hindered a successful implementation of CBC					
The implementation of CBC is failing due to inadequate number of teachers posted in Kenyan schools					
My school has not yet received all the necessary learning resources for CBC					
The textbooks provided for CBC in my school are of low quality					
In my school, there is an equipped home science room for practicals					
My school has adequate Physical Education play items and other facilities e.g. swimming pools, balls, nets, and playfields					
Cumulative Mean					

Part D: ICT integration in public primary schools towards successful implementation of competency-based curriculum.

The checklist below shows a number of statements concerning ICT integration in public primary schools towards successful CBC implementation. Kindly indicate the extent to which you agree or disagree with each of the statements indicated. Use the likert scale below to respond. **SA (5)** – Strongly Agree; **A (4)** – Agree; **N (3)** – Not Sure; **D (2)** – Disagree; **SD (1)** – Strongly Disagree

ICT Integration in public primary schools	5 (SA)	4 (A)	3 (N)	2 (D)	1 (SD)
I have ever attended ICT course					
I have reasonable ICT knowledge through training					
I am able to operate a computer/laptop/smart phone without problems					
I am able to apply ICT knowledge to deliver CBC content with ease					
I am able to store learners' work in advisable electronic storages					
I am able to assess CBC content among my learners through digital means					
I enjoy delivering CBC content using digital devices					
My school is connected to power grid/any other form of power					
My school has quite a number of functional desktops / laptops / tablets for use by all learners					
My school has functional laptops / tablets for use by all teachers					
My school is connected to reliable internet					
My school has spacious computer lab					
All teachers in my school possess functional smart phones					
My school has functional projector(s)					
Cumulative Mean					

Part E: Challenges facing teachers and headteachers towards successful implementation of competency-based curriculum.

The checklist below shows a number of statements concerning challenges facing teachers and headteachers in public primary schools towards successful CBC implementation. Kindly indicate the extent to which you agree or disagree with each of the statements indicated. Use the likert scale below to respond. **SA (5)** – Strongly Agree; **A (4)** – Agree; **N (3)** – Not Sure; **D (2)** – Disagree; **SD (1)** – Strongly Disagree

Challenges facing teachers and headteachers towards successful implementation of CBC	5 (SA)	4 (A)	3 (N)	2 (D)	1 (SD)
The CBC workload of teachers among teachers is unbearable					
Teachers in my school prepare CBC professional documents with challenges					
Time allocated for CBC lessons is enough to cover planned content					
Teachers posted in my school lack subject content in the learning areas they teach					
Most teachers in my school lack CBC in-service training					
Teachers in my school incorporate CBC methods in teaching and learning					
Parental support towards CBC implementation is very minimal in my school					
Cumulative Mean					

This image shows a full page of white paper designed for handwriting practice. It features approximately 20 evenly spaced horizontal dotted lines running across the width of the page. There are no margins, text, or other markings present.

Appendix III: ANU Letter of Research Authorization



AFRICA NAZARENE
UNIVERSITY

P.O.Box: 53067 – 00200
Nairobi, Kenya.
Tel: 020 252 7170/1 – 5
Email: vc@anu.ac.ke
www.anu.ac.ke

17th April 2024

RE: TO WHOM IT MAY CONCERN

Joseph Kyuli (14S01CMED002) is a bonafide student at Africa Nazarene University. He has finished his course work and has defended his thesis proposal entitled: -

"Preparedness of Public Primary Schools towards successful implementation of competency Based curriculum in Mwala Sub - County, Kenya".

Any assistance accorded to him to facilitate data collection and finish his thesis is highly welcomed.

Rodney Z. Reed

Prof. Rodney Reed
DVC, Academic & Student Affairs

Council Members	Dr. Gabriel Benjiman (Chair), Mrs. Emily Chege (Vice Chair) Dr. Stanley Makhosi Bhebhe (Vice Chancellor), Dr. Angela Maria Pereira Barreto Da Veiga Moreno, Mrs. Sibongile Ncala, Dr. James Copple, Dr. Kevin Ulmet, Dr. Musa Kunene, Dr. Shikoh Gitau, Mr. Mike Musho Ageng'o
Board of Trustees	Rev. Donald W. Gardner (Chair), Mrs. Marie M. M. Mansaly (Vice Chair), Dr. Daniel A. K. L. Gomis, Dr. LuVerne S. Ward Jr. Prof. John P. Marangu, Dr. Eugenio Duarte, Dr. Stanley M. Bhebhe (Vice Chancellor), Mr. Cornelius Muthuri, Dr. Gabriel Benjiman

Appendix IV: NACOSTI Research Authorization Permit

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 903814	Date of Issue: 22/May/2024
RESEARCH LICENSE	
	
This is to Certify that Mr.. JOSEPH NYAMAI KYULI of Africa Nazarene University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Machakos on the topic: PREPAREDNESS OF PUBLIC PRIMARY SCHOOLS TOWARDS THE IMPLEMENTATION OF COMPETENCY BASED CURRICULUM IN MWALA SUB-COUNTY, MACHAKOS COUNTY for the period ending : 22/May/2025.	
License No: NACOSTI/P/24/35008	
903814 Applicant Identification Number	 Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code 
NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.	
See overleaf for conditions	