SCHOOL-BASED FACTORS INFLUENCING IMPLEMENTATION OF COMPETENCY-BASED CURRICULUM IN JUNIOR SCHOOLS IN NORTH IMENTI, KENYA

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DECLARATION

This thesis is my original work and has not been submitted for conferment of a degree in any other University.

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DEDICATION

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ABSTRACT

Kenya has experienced a gradual transition from a content-focused educational framework to a competency-based curriculum. However, transitioning to Competency-Based Curriculum has faced many challenges, particularly at the school level. This research was carried out to determine how school-based factors influence the implementation of Competency Based Curriculum in junior schools. Specifically, the study evaluated the influence of teachers' professional development, instructional materials, and school physical resources, on implementing the Competency Based Curriculum in junior schools in North Imenti Sub-County, Meru County. The research was guided by Adult Learning Theory, Cognitive Load Theory, and Ecological System Theory. The study used a descriptive survey design. The targeted schools for this research were 26 junior schools in North Imenti. The respondents were 2 sub-county education directors, 26 head teachers, and 70 junior school teachers. The sample size was 31. The data was collected using Questionnaires, interview schedules, and observation checklists. The collected data was coded and entered into Excel, where Quantitative data was analyzed using descriptive analysis. The findings were presented in tables and charts. Qualitative data collected from interviews were analyzed using thematic content analysis, and framework analysis was presented in narrative form. From the findings of this study, 71% of respondent revealed that teachers' professional development influences implementation of CBC to a Great Extent while 29% indicated an influence of Very Great extent. On school physical infrastructure, 70% of respondents indicated that classrooms very greatly influenced the implementation of CBC, followed by science laboratories with 63%, then playgrounds with 53%, ICT infrastructure with 50%, while agricultural plots and workshop with 50% respectively. On instructional materials, course books were rated the most influential material in the implementation of CBC with 85%, followed by teachers' guide with 70%, then digital tools with 60% and finally teaching aids with 45%. The study established that teachers to be trained more on subject-specific methodologies, pedagogy, and learner assessment under CBC. Challenges identified included irregular teacher training, limited follow-up support, especially in remote areas, and inadequate facilities such as libraries and workshops. The study concluded that sustained professional development, adequate learning resources, and improved infrastructure are essential for effective CBC implementation.

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ABBREVIATIONS AND ACRONYMS

CBC	Competency-Based Curriculum
CBE	Curriculum Based Establishment
IBE	International Bureau of Education
ICT	Information and Communication Technology
JS	Junior School
KBC	Knowledge-Based Curriculum
KICD	Kenya Institute of Curriculum Development
KNUT	Kenya National Union of Teachers
MoE	Ministry of Education
NACOSTI	National Council of Science and Technology
PISA	Program for International Student Assessment
SDGs	Sustainable Development Goals
SPSS	Statistical Package for the Social Science
TSC	Teachers Service Commission
UNESCO	United Nations Educational, Scientific and Cultural Organization

OPERATIONAL DEFINITIONS OF TERMS

Curriculum	A curriculum is defined as a deliberately organized sequence of skills and knowledge that students are anticipated to gain during their time in school or a course of study
Competency-based Curriculum	This learner-centered Curriculum helps learners develop and apply real-life skills and knowledge
School-Based Factors	Elements within the school surroundings that can significantly affect the implementation of the CBC in Junior Schools
Teacher professional development	This ongoing educational journey is designed to equip teachers with the latest expertise and knowledge needed for effective execution of the CBC
School Physical Resources	These are school facilities such as laboratories, libraries, classrooms, game equipment, and playground sanitation facilities within the school
Instructional materials	These refer to the resources utilized by both teachers and students to facilitate the learning and teaching process in schools while implementing the CBC. Such materials encompass textbooks, teachers' guidebooks, syllabi, lesson plans, and schemes of work, among others

CHAPTER ONE: INTRODUCTION

This chapter entails the background to the study, Statement of the problem, study objectives, research questions, significance of the study, and limitations of the study, delimitation, and justification of the study

1.1 Background to the Study

Education is a key driver of socioeconomic progress and is crucial to a nation's growth. The increasing demand for digital skills relevant to the 21st century has significantly influenced classroom instructional methods. The curriculum is a crucial instrument through which countries globally prepare their populace with essential abilities, experience, values, and perspectives to engage actively in social and commercial endeavors. According to Mweru, Wambiri and Isaboke (2021), it is necessary to consistently review and refresh the curriculum to incorporate competencies and skills pertinent to the 21st century global workforce.

A curriculum that is both practical and impactful is essential for achieving the educational aims of a community. A practical curriculum benefits students, educators, and all community members by providing a structured and practical framework for delivering quality education. The primary goal of the curriculum is to address societal issues by equipping learners with the essential abilities, expertise, values, moral standards, and mindset required.

Numerous countries have transitioned from a curriculum based on knowledge to one based on competencies. CBC prioritizes a learner-centered approach, concentrating on the abilities and competencies learners are expected to demonstrate rather than merely the information they should acquire (Sifuna & Obonyo, 2019). According to IBE-UNESCO (2023), a

competency-based curriculum is designed to help students obtain and apply essential skills and knowledge in practical, real-world situations.

Application of skills and knowledge involves gathering, evaluating, classifying, and synthesizing information, cooperating with others as a team, communicating efficiently, applying scientific and mathematical methodologies to explore innovative concepts actively, fostering creative thinking, and addressing challenges through analytical thinking. Competency-based curriculum has become globally prevalent, and most countries have done comprehensive curriculum reforms so learners can be ready for higher education and job market demands (Maxwell et al., 2017)

In the 1960s, the USA pioneered the implementation of a CBC after realizing that learners were not gaining the needed life skills after school (Barrick, 2017). They felt that a better curriculum was needed to impart skills, knowledge, and attitudes to establish more comprehensive competencies that could help resolve everyday challenges.

The education system in Germany is considered one of the best in the world, according to an evaluation done by the PISA (Wambua, 2019). The success of the German academic system was well due to the reformation of the National Curriculum. Instructors were equipped with research, curricular, and psychological skills, empowering them to assume responsibility for implementing the curriculum in accordance with national standards. School heads and teachers were given the responsibility to outline the primary goal of education for every school, the process of accessing their students, and how to assess their improvement goals. A key factor contributing to the effective adoption of the CBC in Germany was the substantial investment by the government in teacher training. Teachers were trained for free

on what the curriculum entailed since they were considered to have considerable responsibilities in the implementation process of CBC.

Israel is another country that implemented CBC in 2003 and was successful. The education system was centralized, granting the Ministry of Education the authority to determine educational policy across all stages. Professional supervisors and professional committees helped them (Gal-Ezer & Stephenson, 2014). Their education system is divided into stages (6-3-3). The initial phase consists of six years in elementary school, three years in middle school, and three years in high school. These stages are compulsory for every child. In high school, there is a culmination of matriculation exams used in university admissions.

The Korean school system was considered among the top-performing systems globally, according to the PISA assessment, so that even Western nations were using Korean results to compare theirs. However, most of the students were not happy with that education system. That is why there was Korean education reform, where they transitioned from a curriculum focused on delivering knowledge to one centered on competency-based learning. Given Korea's experience in a paradigm shift to a competency-based curriculum, various factors must be considered for CBC implementation to succeed. First, practical changes in classroom teaching styles and assessment tools should be made. Second, it facilitates the advancement of the professional growth of educators. In developing a competency-based curriculum, teachers must determine and build a curriculum to develop the competencies needed for the learners and enhance their decision-making process.

In 2005, Tanzania implemented a competency-based curriculum, replacing the content-driven system that existed from 1961. This was after the general feeling that this Content-

Based Curriculum needed to help learners after graduating since they could not portray any skills or competencies required for the job market demands (Wambua, 2019). However, implementing this competency-based curriculum took time and faced many challenges, such as teachers needing to be more familiar with CBC, professional development needed for teachers, the unavailability of instructional materials, and poor assessment methods.

The 8-4-4 curriculum has faced criticism for yielding graduates lacking the necessary skills to meet job market demands. Despite this, there remains a pressing need for more skilled personnel to drive Kenya's vision for 2030 forward (Opondo et al., 2023). According to Mwang'ombe (2021), it is through education reform that a country can change this trend. 8-4-4 has been blamed for being examination-based, having shallow content, poor teacher training, poor allocation of resources, and lack of enough learning and teaching resources, producing graduates with insufficient skills in the job market (Akala, 2021). These challenges have impacted the standard of education, leading the KICD to advocate for a shift towards a CBC structured as 2-6-3-3-3, specifically focusing on digital literacy, creativity, self-efficacy, analytical reasoning, effective communication, problem-solving, collaboration, and imagination (Mwang'ombe, 2021). Kenya is currently transitioning from a curriculum that focuses on content (8-4-4) to a curriculum that focuses on competencies (2-6-3-3-3). The CBC prioritizes students' capacity to utilize knowledge rather than just obtaining it, advocating for a learner-centered approach that addresses the evolving demands of learners, educators, and the community as a whole.

The introduction of CBC in Kenya is being carried out gradually; it started in pre-primary schools, then primary schools, and now junior schools. Wambua (2019) suggests that during curriculum implementation, frequent evaluations should be conducted by collecting data to

identify any challenges encountered and adjust the implementation strategies accordingly. The recorded experiences from other countries that have previously implemented a Competency-Based Curriculum reveal that the initial stages of CBC implementation are often met with numerous challenges. In Tanzania, for instance, implementing CBC faced many challenges, such as inadequate teachers, insufficient learning and teaching resources, inadequate and overcrowded classes, and little time for teaching practice.

Teachers' professional development is a continuous educational journey that helps teachers to expand their knowledge on pedagogy, assessment methodologies, classroom management, content-specific knowledge and curriculum design (Otieno & Sakani, 2024). Teachers' professional development is crucial in the implementation of CBC as it act as a bridge to effective classroom practice and educational policy. Teachers that are well trained and equipped with vital pedagogical skills and curriculum knowledge which are in alignment with CBC competencies can successfully engage students in development of competencies. Also can enhancing problem solving, critical thinking and collaborative skills (Mutai et al., 2024). Furthermore, teacher professional development enhances the habit of continuous upgrading by the teachers hence fostering implementation of CBC as an innovative educational framework.

Instructional resources are the basic channel of sending messages in the classroom for effective teaching and learning experience (Mwita & Onyango, 2022). Instructional materials can be categorized into two forms: material objects and photographs. Material objects include; posters, books, grass and painting while photographs include models, and audio-visual aides such as videos and televisions.

Teaching and learning materials enhance the attention of learners as well as maintaining their curiosity and also they enable them to make discoveries about their abilities and themselves. Instructional materials enhance the quality of education for academic and intellectual ability of students in all aspects of their learning (Agnes et al., 2023). Availability of instructional resources in classrooms influences education quality offered to learners. These materials help both the learners and the teachers to be consistent with their content in order to achieve their educational objectives.

Wambua (2019) suggests that classrooms and learning experiences should be centered on the learner for CBC to be successfully implemented. According to (Chepkilot et al., 2024), for implementation to be effective, it depends on availability of physical, technological, and education resources. Implementation of CBC in schools with inadequate infrastructure such as in rural areas, present significant difficulties that can influence its success.

Singapore and Finland are among the countries that have successfully implemented CBC in their educational system due to a well-established school physical resources. A study conducted by (OECD, 2022) indicated that there is relationship between effective implementation of CBC and modern facilities, up-to-date instructional resources, and teacher training programs. However, most of the countries show disparities in physical resources which influence effective implementation of CBC.

Teachers are encouraged to focus on the competencies that students need to exhibit. Schools should provide chances for making decisions and balance formative and summative examinations. Furthermore, it is essential to have adequate resources to support the execution of digital learning. Schools should also adopt co-development and collaborative

approaches in the learning and teaching process and actively involve teachers and parents in the student's educational journey.

Silas (2020) points out that the introduction of CBC in many of Kenya's early childhood education and primary schools has faced multiple difficulties, which could have been mitigated if they had been identified and addressed earlier. Considering other nations' difficulties, such as Tanzania, which executed CBC before Kenya, implementing CBC in Kenyan Junior schools will likely face similar challenges. This situation motivated the researcher to explore how various school-based factors, including teachers' professional development, instructional materials, and physical resources, influence the implementation of the CBC in public junior schools in North Imenti, Meru County.

1.2 Statement of the Problem

The 8-4-4 system has been criticized for its emphasis on exams, where teaching and learning were predominantly aimed at excelling in examinations. This led to a lack of acquisition of knowledge and skills that could delay the goals of Vision 2030 and have 21st century skills. The government introduced CBC after conducting a summative evaluation of the 8-4-4 system. CBC is believed to align Kenya's education with the constitution of Kenya, the United Nations, Sustainable Development Goals, the Africa Union Agenda 2063, and Kenya's Vision 2030.

However, transitioning to CBC has faced many challenges, particularly at the school level, from limited resources to resistance among education stakeholders. For instance, a study by Nyaga (2018) in primary schools in North Imenti, where junior schools are currently domiciled, determined that most of the schools were deficient in essential resources needed

for digital literacy, critical thinking, problem solving, imagination and creativity. Given that these are core competencies of CBC, the researcher conducted a study to determine how school-based factors influence the implementation of a CBC in junior schools in North Imenti, Meru County.

1.3 Purpose of the Study

The study intended to look on School-Based factors influencing the implementation of Competency-Based Curriculum in public junior schools in North Imenti Meru County. Specifically focused on teachers' professional development, instructional materials and school physical resources. These factors were selected because they form the foundation of effective implementation of CBC at the school level. While there are other factors influencing the implementation of CBC, this research focused on school-based factors that can be improved and managed within the school environment.

1.4 Study Objectives

1.4.1General objective

To investigate the school-based factors influencing the implementation of the Competency-Based Curriculum in junior schools in North Imenti Meru County.

1.4.2 Specific objectives

i. To establish the effect of teachers' professional development on the implementation of Competency-based Curriculum in public junior schools in public junior schools in North Imenti, Meru County
ii. To examine how instructional materials affect the implementation of Competency-based Curriculum in public junior schools in North Imenti, Meru County

iii. To determine the impact of school physical resources on the implementation of Competency-based Curriculum in public junior schools in North Imenti, Meru County.

1.5 Research Questions

i. To what extent does teachers' professional development affect the implementation of a Competency-based Curriculum in public junior schools in North Imenti, Meru County?

ii. How do instructional materials affect the implementation of competency-based curriculum in public junior schools in North Imenti, Meru County?

iii. To what extent do school physical resources impact the implementation of a Competency-Based Curriculum in public junior schools in North Imenti Meru County?

1.6 Significance of the Study

The results of this research may be of great significance to teachers, principals, the community, and the Ministry of Education. The KICD and the MoE might gain from this study as it may enable them to identify the school-based factors that impact the implementation of the CBC in Kenyan public junior secondary schools. The findings might be essential to the Ministry of Education as they might tackle the challenges as early as possible and ensure the successful adoption of the CBC in junior secondary schools.

The results of this research may be valuable to school principals and teachers, who perform critical duties in the successful execution of the CBC. Analyzing how the implementation process brought out recommendations could help adequately prepare for the implementation process of CBC.

1.6.1 Limitations of the study

Some respondents were not willing to answer some questions causing missing data that could have affected the completeness of the study. The researcher mitigated this limitation by ensuring simplicity and clarity in the interview and questionnaires questions to encourage participation. Also reminders and follow-ups was applied to improve response rates.

1.6.2 Delimitation

The research was conducted in public junior schools located in North Imenti, Meru County. The study focused on school-based factors that influence the implementation of CBC in North Imenti Sub-County. Since there are many factors, the study only focused on teachers' professional development, instructional materials, and school physical resources. The scope of the study was strictly governed by the objectives outlined for this research.

1.7 Justification

The research was justified by the need to address school-based factors such as teachers' professional development, instructional materials, and school physical resources that influences the implementation of CBC. Teachers' professional development is vital as it helps teachers to be trained and adopt new learner-centered approach for effective implementation of CBC. Instructional materials affect hands-on learning, and school physical resources support practical and experiential learning. By focusing on these factors, the research provided insight that can be of great use by school administrators, policymakers and all education stakeholders to enhance effective implementation of CBC at the school level.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter contains a comprehensive literature review on the school-based factors that influence the implementation of the CBC in junior schools. The review starts with a theoretical literature review followed by an empirical review. Under empirical review, there are teachers' professional development, instructional materials, and physical resources toward implementing a Competency-based Curriculum in junior schools. Finally, there exists a conceptual framework that emphasizes the connection between dependent and independent variables.

2.2 Theoretical Literature Review

This research used three theories that are connected to the objectives of the study. These theories include; adult learning theory (Andragogy), cognitive load theory, and ecological systems theory. These theories gave understanding on how school physical resources, teachers' professional development and instructional materials influence the implementation of Competency-Based Curriculum in junior schools.

2.2.1 Adult learning theory (Andragogy)

Andragogy theory also known as adult learning theory by Malcolm Knowles (1968) state that grown-ups learn differently from children. Malcolm Knowles suggest that adult learners are self-directed and want to see immediate relevance in what they are learning. According to this theory, for effective implementation of CBC, teachers should be involved in continuous professional development that is relevant and practical designed to improve their teaching experiences.

The theory enhances self-directed learning which is in alignment with the goals of CBC promoting active participants of both learners and teachers in the learning process. It insists learning through experience which is important in the implementation of CBC. However, as it assumes all teachers are self-directed learners, some teachers may depend on external motivation more than being self-directed learners. This theory recommends using blended approach when training teachers. Such as opportunities and structured training program for self-directed learning. Also on challenges in the institutions, the theory recommends policy interventions, like adding more fund for teacher training and ensuring professional development sessions are compulsory.

2.2.2 Cognitive load theory (CLT)

Cognitive Load Theory by John Sweller (1988) state that instructional materials should be designed to maximize learning by reducing unwanted cognitive overload. In accordance to Sweller, when too much information overwhelms the learners, their ability to apply and retain knowledge is reduced. This theory is essential in the implementation of CBC as instructional resources must be created to enhance engagement, practical and competency-based learning. By correctly structuring instructional resources, teachers make sure learners are focusing on the crucial learning content rather than being overloaded with unimportant information. The theory emphasizes the need for diverse instructional resources such visuals, textbooks, manipulative and digital content, and charts to enhance understanding.

However, this theory does not account for learners' differences. The theory is based on the assumption that all students process information in the same way, which may not correct according to diverse learning needs in CBC. Also the theory insists on internal cognitive

processes, whereas, CBC encourages interactive learning such as discussions and group work.

The study suggests customizing learning resources to meet every learners' learning abilities and styles. Also, CBC should incorporate peer-based learning methodologies such as discussions and group projects to enhance collaboration.

2.2.3 Ecological systems theory

Ecological systems theory by Urie Bronfenbrenner (1979) states how various environmental factors influences the development of a child. In the CBC context, school physical resources such as classrooms, laboratories, libraries and ICT facilities are very essential in effective implementation of CBC. This theory emphasizes that learning environments significantly influences learners' outcomes, hence encourage the importance of well-equipped schools for effective implementation of CBC. Also, this theory such government policies and funding can support to improve school facilities hence benefiting the implementation of CBC.

However, this theory does not cater for individual learners' needs. It only considers external environmental factors which does not focus on differences in learners' needs. Also the theory does not offer solutions on how to overcome funding and policy challenges. The study recommends differentiated learning environments within schools to cater diverse student needs. Also the study suggests for policy recommendations to promote constructions of school physical infrastructure in junior schools.

2.3 Empirical Literature Review

2.3.1 Teacher professional development and implementation of the competency-based curriculum

Shifting from a curriculum that focuses on acquiring knowledge to a Competency-Based Curriculum requires a change in instruction; hence, teachers should undergo professional development to be well-prepared to implement CBC. According to Isaboke et al. (2021) teachers play a pivotal role in executing a Competency-based curriculum; hence, they must possess the necessary skills, knowledge, and capabilities to establish an effective learning environment. Research by Edu, Mwita, Yambo and Onyango (2022) states that inadequate teachers have been a huge challenge in the implementation of CBC. This phenomenon has been observed in numerous public primary schools across the nation.

As stated by the MOE (2023), successful implementation of CBC is measured by whether learners can appropriately apply numeracy, literacy, and logical thinking skills when expressing themselves, use digital literacy skills when learning, portray effective communication both verbally and non-verbally, portray good citizenship and ethical behaviour, manage and take care of the environment to enhance development.

Teachers are crucial in providing students with opportunities to realize their potential (Zeiger, 2018). Therefore, teachers need skills and knowledge to help them apply pedagogical approaches, prepare lesson plans and assessment materials, and select teaching and learning materials to help implement CBC in schools (Syomwene, 2017). According to a study by Wanjiku (2022) on factors affecting CBC implementation in North Eastern primary schools, only 32% of teachers had gone for CBC training. Another research by Okello (2022) in Kajiado indicated that only 11% of teachers had yet to go for CBC training.

Teachers indicated that the training was advantageous because it furnished them with the essential competencies and abilities needed for the execution of the CBC.

Instructional methodologies represent a critical area requiring further training for teachers, given that the approaches to teaching the CBC fundamentally differ by being more focused on the learner, as opposed to the traditional, teacher-centred methods. Okello (2022) also emphasized that both in-service and pre-service teacher training programs have fallen short in adequately preparing educators with the necessary ICT skills. This shortfall hinders their ability to utilize the technological tools essential for integrating technology into classroom instruction. In Nairobi, research Ondimu (2018) conducted research regarding the readiness of teachers to execute the CBC in primary schools, and it was established that 73% of the teachers had not received training on integrating ICT into classrooms. Incorporating technology into teaching and learning enables both teachers and students to develop new tasks and ideas, as it facilitates a deeper acquisition of knowledge. Hence, teachers need these ICT skills to implement CBC in schools easily.

For effective execution of the CBC, Okeyo and Kanake (2021) suggests that teachers must know how to prepare a reflective lesson plan. In a study conducted by Mokua (2010) in South Africa, cited by Mweru et al. (2021), the findings highlighted the critical role of teachers in curriculum implementation. They suggested that for South Africa to meet its educational objectives, teachers must undergo training. This training should empower them to develop effective lesson plans, a step deemed essential prior to the introduction of the CBC. Another study conducted in Tanzania by Mwindaji (2015), cited by Wambiri et al. (2021), indicated that only 24% of lesson plans prepared by teachers followed the CBC lesson plan guideline. These findings indicate that during teachers' professional development,

training on preparing a CBC lesson plan should be prioritized for the effective implementation of CBC.

Similarly, research by Ochako et al. (2019), as referenced by Isaboke et al. (2021), looked into the proficiency of English teachers in crafting lesson plans. The study found that teachers were still employing lesson plans designed for content-based curricula, indicating that inadequate in-service training significantly affected the adoption of the new curriculum. Furthermore, an investigation by Kenya National Union of Teachers (KNUT) (2019) into the readiness of primary school teachers for the adoption of the new curriculum revealed that fewer than 20% were adept at using CBC methodologies, and about 70% lacked professional development training specifically geared towards enacting the new educational framework.

According to research by Molapo and Pillay (2018) in South Africa, the professional development of teachers can significantly impact the implementation of the CBC. The study suggested that when teachers are deficient in the necessary skills and knowledge and when minimal or no training is provided, it obstructs the effective roll-out of the curriculum. Another research done by Ambei and Kim (2018) in Cameroon established that despite teachers undergoing professional development, implementing CBC was still a challenge in most cases due to a lack of resources and the need to learn how to improvise those resources. When it comes to implementation of Competency-Based Curriculum in Kenya, teachers are very crucial components. A research done in Rwanda by Nkundabakura, Mugambo and Ozawa (2021), highlighted that implementation of CBC was not uniformly done due to differences in teachers' professional development and insufficient training on CBC. This concur with another research done by Okeyo and Mokua (2023) on schools in Nyamira

South that highlighted that inadequate training of teachers can impair the implementation of CBC.

According to Koskei and Chepchumba (2020) implementation of CBC was hurriedly done even before the training of teachers on teaching methods and its content. Most of the teachers had not been trained on new teaching techniques and contents required in the implementation of CBC. Also, majority of teachers were concerned on preparing lesson plans for all lessons since one lesson plan was taking a lot of work. However, this research did not highlight the effect of teachers' professional training on implementation of CBC in Junior Schools.

In a study done by Jeanne and Mukamazimpaka (2020) established that several teachers struggled to implement CBC in class and they switched back to old method of teaching which they felt comfortable with. The research concluded that, implementation of CBC could be achieved through applying competence-based techniques, excellent class delivery, and continuous in-service training of teachers. It also recommended that the Ministry of Education and KICD to plan more training of teachers to bridge the gap outlined in pedagogical skills. This research concur with another study by Momanyi and Rop (2019) that established that the majority of teachers' knowledge on CBC was vague which resulted to poor evaluation and delivery of new curriculum in class. However, the research recommended more training sessions of teachers to bridge that gap.

It is crucial for teachers to undergo professional developments and training to receive knowledge and skills needed for successful implementation of CBC. A study done by Tumuheise, Ssempala, Rwends and Nachuha (2023) recommended that education agencies should come up with more training programs and workshops to improve capability of

teachers in delivering the curriculum. Teachers need to be trained more on pedagogical skills for effective implementation of CBC.

According to a study conducted in Tanzania by Mwindaji (2015), cited by Mweru et al. (2021), who investigated whether teachers were following formative assessment as per the guideline of CBC, established that less than 50% of teachers were the only ones who could conduct formative evaluation successfully. Also, the study established that only 20% of teachers could involve learners in classroom activities and observe classroom sessions. These findings highlight the importance of training teachers to develop the necessary knowledge and abilities required to conduct formative assessments using assessment rubrics successfully.

A study by Ondimu (2018) investigating the preparedness of teachers to implement CBC in private schools established that 70% of teachers faced difficulties in utilizing assessment rubrics. The researcher also found that most teachers had not gone for training, and 65.2% had yet to attend a single in-service training to implement CBC. This study shows that teachers required more training to implement CBC effectively. However, the research reviewed was subjected to reviewing the capabilities of pre-primary and primary school teachers in conducting formative assessments according to CBC rubrics. Consequently, this research aimed to bridge the existing gap by exploring how teacher professional development impacts the implementation of the competency-based curriculum in junior schools within North Imenti, Meru County.

2.3.2 School physical resources and implementation of competency-based curriculum

The accessibility of physical infrastructure offers a secure, safe, and comfortable environment that enhances smooth learning. As stated by the MOE (2023), the minimum

infrastructure required by all junior schools includes libraries with physical and digital learning resources, computer laboratories with basic programs, projectors, and printers. There should be small plots for practicing agricultural innovation, field or open spaces for games and physical education, and home science rooms for practicing sewing, laundry, and cooking; workshops should be well equipped with safety equipment for pre-technical studies. School physical infrastructures are crucial in the implementation of CBC. A research done by Ngeno, Mweru, and Mwoma (2021) on availability of physical resources in the implementation of CBC in primary schools in Kericho, established that there is positive relationship between the school physical resources and implementation of CBC as per the head teachers. They indicated a moderate positive correlation of +0.336. The study concluded that there is a need to increase funds in schools for the improvements of school physical resources.

According to research conducted by Okello (2022) on the factors affecting the implementation of the Competency-Based Curriculum in public primary schools, indicated that 80% of the primary schools lacked libraries, only 4% of these schools had computer laboratories and workshops, while only 10% had enough water supply and water storage. This study revealed that a considerable proportion of teachers identified the presence of laboratories as impacting the execution of the CBC by 53%. In contrast, the availability of playgrounds had a 58% influence, and the accessibility of ICT infrastructure affected it by 55%.

School infrastructure is vital for the effective execution of any curriculum. A study by Foth and Holmes (2017) in Canada on the implementation of a CBC indicated that insufficient

school resources, insufficient numbers of teachers, unavailability of instructional materials, and insufficient teacher training significantly impede the execution of CBC.

According to Sossion (2019) suggested that provision of small-sized classrooms that will align with the recommended standards of UNESCO for personalized learning to occur. He further proposed providing school facilities such as workshops, science laboratories, libraries, and computer labs and building more classes to serve the increasing number of students due to the government's 100% transition policy. Hawa (2025) supports this statement in his study, where he established that classes are one of the most crucial school facilities and that every school should construct enough well-present and spacious classrooms. He further recommended that the government build more school infrastructures to enhance the effective implementation of CBC.

Research done by Chaudhary (2015), as referenced by Ngeno et al. (2021), highlighted that the government offered physical resources, such as libraries, laboratories, playgrounds, classrooms, and workshops, to facilitate the effective execution of the curriculum. The research concluded that the presence of school resources had a significant effect on the implementation of the CBC, demonstrating a positive correlation of 0.34. In contrast, separate research by Muasya and Waweru (2019) pointed out the lack of adequate instructional facilities, including laboratories, libraries, workshops, and playing fields. This study found a negative connection between the adequacy of school physical resources and the effectiveness of curriculum implementation.

Research done by Akala (2021) on the implementation of the curriculum in community colleges found that physical facilities alone were insufficient for effective implementation. More workshops and lecture halls were needed, and training materials were unavailable. The

researcher revealed that reference materials were only partially utilized, even though they were enough. Also, the study established insufficient playgrounds, libraries, and laboratories. Competency-Based Curriculum is a practical oriented curriculum and for it to be successful, there should be availability of land for practising agricultural activities. To nurture talents as it is a requirement in the implementation of CBC, it is crucial to have adequate space for field activities. Also equipment and practical tools should be available in all schools, (Ngeno et al.,2021).

This study concur with research done by Maiyuria, Mackatiani & Gakunga (2024) on effects of resources on implementation of the CBC, where the researchers established that the availability of the quality of school infrastructure may influence the effectiveness of the implementation of CBC. Implementation of CBC cannot be successful without availability and adequacy of school resources, skilled and informed teachers, (Akala, 2021).

Another research done by Adan and Kenei (2023) in public junior schools in Banisa Sub-County established that most of the classrooms in junior schools are overcrowded leading to unconducive learning environment. There are poor fields that have pot-holes and filled with stones for learners' outdoor activities, which expose learners to dangers. The Study concluded that addressing these inadequacy of school infrastructure is vital to achieve full potential of CBC.

Another research done by examined studies illustrate the effect of physical facilities on the implementation of CBC in primary schools, yet there is a noticeable gap in research concerning junior schools. This study aimed to address this void by exploring how physical resources in schools can affect the deployment of a CBC in public junior schools within North Imenti, Meru County.

2.3.3 Instructional materials and implementation of competency-based curriculum

Teaching and learning resources are the basic medium for passing information when learning is taking place. These resources help students understand concepts and arouse learning interest in learners when in the learning environment (Mubarak & Aldhafeeri, 2017). For learners to develop competencies, Tumuheise et al., (2023) established that schools need to have sufficient instructional materials such as laboratory equipment, charts, books and technological resources such as computers.

For successful implementation of CBC in junior schools, there should be adequate availability of instructional materials. According to the KICD (2022), Teachers must have CBC documents such as curriculum syllabus, a sample of lesson plans, portfolios, assessment records, and scheme of work. There should be availability of textbooks in the 1:1 ratio together with teachers' guides in all subjects. Also, there should be enough teachers. According to the Ministry of Education (2023), the number of teachers in JS will depend on the Curriculum Based Establishment. A teacher will have to teach 27 lessons every week, including lessons from 2 specialization subjects. The number of teachers needed in every school will depend on the number of classes in every subject every week minus shortage emerging when administrators reduce the number of lessons divided by 27. This is due to the reduced teaching load for administrators as they are given more time for administrative work.

As stated by Akala (2021), the implementation of CBC has faced several setbacks, such as a need for more instructional materials and better-quality textbooks. According to Ondimu (2018), there has been a challenge in preparing and printing the textbooks used in the new curriculum. (Amunga et al., 2020) also stated that instructional materials have yet to be

witnessed in several schools, making the execution of the Competency-Based Curriculum very difficult to achieve.

These challenges have caused teachers and learners to be creative and improvise locally available learning resources. However, Kahenda and Kiplagat (2019) advised that it is vital for learners to interact and use real materials to get the required competencies needed in the 21st century. Muthoka (2018) advises teachers to utilize teaching and learning resources to enhance the participation of students in a class for the successful implementation of CBC in schools. He also outlined that using teaching materials in the classrooms motivates learners as they increase stimulus variation and help maintain students' focus and engagement throughout the lesson. Instructional materials also simplify concepts that may be challenging for students to understand.

According to research conducted in Nyandarua by Waweru (2018), it was established that teachers who were using the required instructional resources could guide students effectively in carrying out most of the activities. He discovered that inadequate learning resources influenced the implementation of the new curriculum in primary schools in that area. He also established that most schools needed more textbooks and teacher guides. Teachers had to use the old books to teach, which did not facilitate self-learning, which is one of the core competencies in CBC. He recommended that there be enough instructional resources to implement the new curriculum successfully.

As CBC is being implemented in junior secondary schools, Aina (2023)established that to facilitate successful learning; teachers should improve the learning process and warn that if there are not enough learning resources, they will not be able to facilitate learning. They will not have an option but to go back to the old teaching methods, which were teacher-centered.

For learners to grasp the concepts quickly, teachers must develop materials to facilitate learning. Adan and Orodho (2015), cited by (Rupia, 2024), established in her study that inadequate learning resources greatly affected the curriculum implementation in Tanzania. She recommended that challenges associated with providing instructional materials should be dealt with so that teachers stay on track with the old ways of teaching. She concluded that instructional materials are vital in implementing CBC, and all teachers should be involved in developing instructional resources.

KICD (2018) reported that most of the country's primary schools needed more teaching and learning resources to implement CBC. While most private schools had the resources, public schools still required assistance to acquire essential resources to improve the implementation of a CBC. Based on research done in Tanzania by Makunja (2016), cited by Suto (2023), the implementation of CBC established that the unavailability of instructional materials greatly affected the implementation of Competency-Based Curricula in schools. Another study by Urunana (2018) could not emphasize the importance of instructional resources further since they influence the teaching and learning process in implementing CBC.

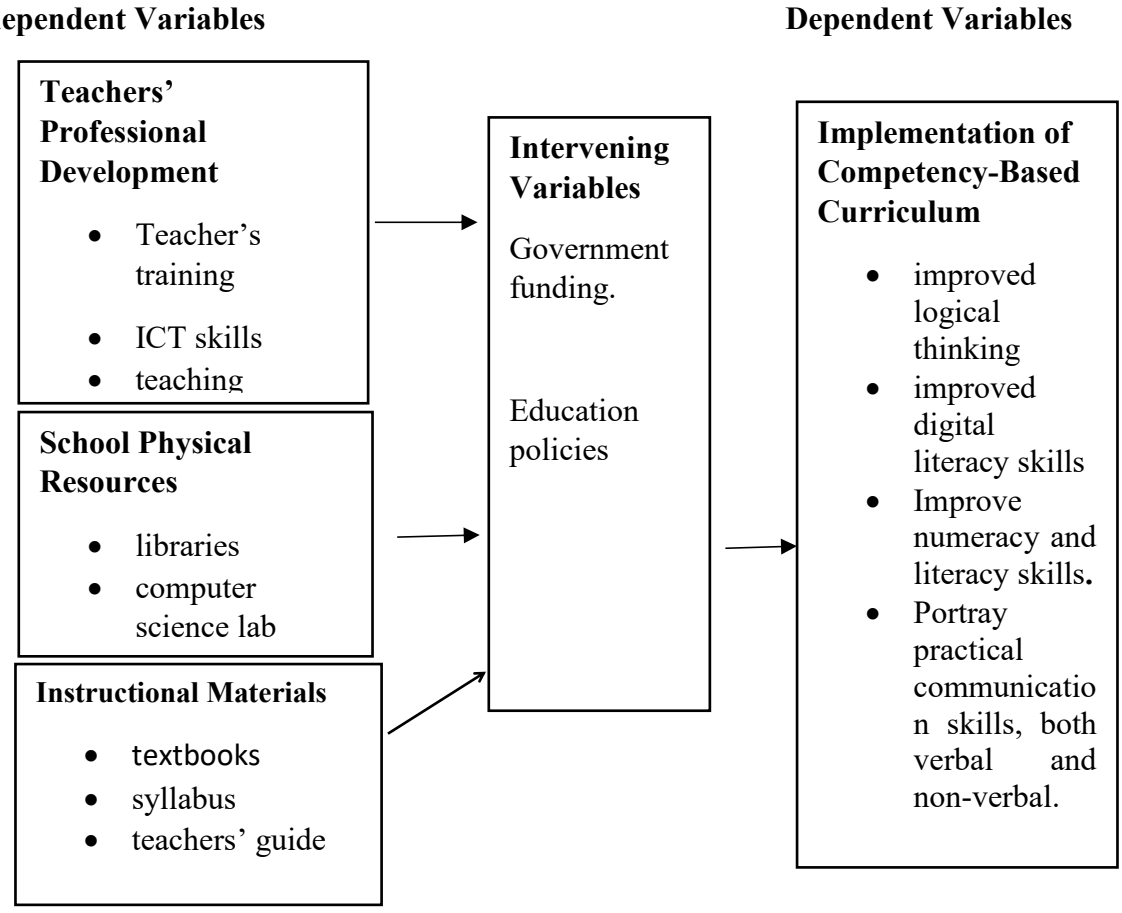
The adoption of CBC in the country shifted from the acquisition of knowledge to application and creation in the real-life context. Chacha and Onyango (2022) argue that this goal may not be achieved soon if there is no provision for required learning and teaching resources that teachers must use to facilitate learning in schools. As no research has been carried out on how instructional materials are influencing the execution of Competency-based Curriculum in junior schools, this research intended to close the gap by conducting a study in North Imenti, Meru County, on how instructional materials affect the implementation of CBC in those schools.

2.4 Conceptual Framework

Figure 1 shows that implementing a Competency Curriculum depends on school-based factors such as teacher professional development, school physical resources, and instructional materials.

Figure 1

Conceptual Framework



One of the independent variables associated with implementing CBC is teachers' professional development. Well-trained teachers have the knowledge and skills needed to prepare CBC-based lessons. Within this are in-service training, workshops, and continuous learning programs to enable teachers to use such methodologies as learner-centered instruction, formative assessment, and competency-based learning activities. Depriving teachers of proper training may not allow them to shift quickly to the CBC requirements.

The availability and adequacy of instructional materials determine the implementation of CBC. Textbooks, ICT tools, practical learning kits, and digital content are all materials that improve the learning experience by offering students resources to learn rather than memorize. Teachers must resort to outdated teaching methods to communicate their message if they lack, making CBC challenging to implement.

Another significant independent variable is the availability of school physical resources such as classrooms, libraries, ICT laboratories, and practical learning spaces. Primarily to support CBC, a well-equipped school environment allows hands-on learning, research, and innovation. Furthermore, schools may not have enough infrastructure, so students may lack facilities referred to as competency-based activities, which may limit the work of the curriculum.

These are all critical, independent variables for the implementation of CBC. Still, their influence is not automatic: government funding and education policies intervene upon these variables to become highly significant. The amount of training, instructional materials, and physical infrastructure that school teachers receive is primarily determined by government funding. One instance is that when the government provides enough resources for the CBC implementation, teachers can be engaged in regular capacity-building programs so they can adequately prepare to deliver CBC-based education. In addition, adequate funding is needed to procure and distribute instructional materials so that all students can access working learning materials. Also, schools can enhance their physical architecture by building more classrooms, science laboratories and buying digital learning devices. At the institutional

level, efforts have been made to ensure the implementation of CBC, but it has not been effective because of a lack of funds to provide these resources.

There are also significant roles in implementing CBC in education schools as it depends on the specific education policies used. The government sets policies on qualification standards, contents, type of assessment, and strategies to allocate resources so that teachers can have proper guidance on the issue of teaching. Policies are formulated so that the teachers have a better understanding of the issue of teaching that has been placed in the right platform. These policies ensure that the implementation of CBC is standardized in all junior schools and that teachers implement CBC through a structured approach to delivering competency-based education.

Curriculum integration is supported by policy, teacher training is dictated by policy, and there are guidelines on what needs to be monitored through implementing CBC policies. Consequently, a teacher may not be guided in implementing CBC policies if Education policies are either unclear, inconsistent, or poorly enforced, and schools may not receive the required support. However, there can be fragmented implementation, where some schools do exceptionally well and some do not because there is no clear policy guidance.

The variables that play a role together determine whether or not CBC implementation would be a success or a failure. However, suppose teacher professional development, instructional materials, and the school's physical resources have sufficient government funding and are aligned with strong education policies. In that case, the implementation of CBC is likely to be accomplished. Teachers will be well-trained to deliver competency-based learning, have instructional materials available, and have adequate learning facilities. Suppose funding is

insufficient, policies are weak or applied inconsistently to well-trained teachers. In that case, CBC may be implemented poorly by even highly trained teachers who are prepared to support learning activities that are a hallmark of CBC.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This section outlines the methodology of the study, encompassing the design of the study, the sampling frame, the target population, sampling methods, research instruments, pilot testing, procedures for collecting data, and methods of data analysis.

3.2 Research Design

This study adopted a descriptive survey design. Kothari (2011) defines a research design as the arrangement and planning of investigation aimed at exploring phenomena to obtain answers to research questions. Mugenda and Mugenda (2012) state that a descriptive survey design is suitable for giving a picture of a phenomenon as it happens, validating its practices, and coming up with conclusions and even theories. This design was appropriate for this research because it accurately and systematically outlined a specific population's behaviors and characteristics. The researcher used interviews and questionnaires to gather information on people's beliefs, attitudes, behaviors, and feelings concerning teacher professional development in implementing CBC in JS, the availability of school physical resources, and how instructional materials can influence the implementation of CBC in Junior School.

3.3 Sampling Frame

According to Mugenda and Mugenda (2012), the sample frame is the entire record of items where the sample is extracted. The research was conducted in public junior schools located within the North Imenti sub-county. This is because a study by Nyaga (2018) established that most primary schools and where junior schools are currently hosted need more infrastructure, such as computer laboratories and digital teaching and learning resources, as these are essential resources when it comes to the implementation of CBC. The study also

concluded that most teachers required more skills and knowledge to teach. Therefore, the researcher undertook a study to determine how school-based factors affect the implementation of the Competency-Based Curriculum in public junior schools in North Imenti, Meru County.

3.4 Target Population

According to Mugenda and Mugenda (2012), the target population is a population where the research finding is generalized. In this research, the target population was comprised of sub-county education directors, teachers, and head teachers. Head teachers were chosen due to their administrative duties in ensuring the efficient implementation of CBC in schools. Teachers have a huge role as they facilitate the learning process in the classroom, and they are also the main CBC implementers in classes. The sub-county directors were targeted because they are responsible for interpreting and ensuring the policies of the Ministry of Education are implemented in schools. They are also responsible for supporting teachers and head teachers in developing and implementing CBC in junior secondary schools. Also, this population was selected because they have the crucial information that assisted the researcher in addressing the research questions.

According to the education office of North Imenti Meru County, there are 26 public junior secondary schools, 70 junior secondary teachers, and 26 head teachers. Private junior secondary schools were not targeted because they are self-sponsored and do not benefit from government funding.

The target population for this study focused on two education directors at the county level, 26 head teachers and 70 junior school teachers, as shown in Table 1, since they are the main facilitators for the execution of a CBC in the classrooms.

Table 1

Target Population

Group	Target Group
Sub-County Director of Education	2
Head Teachers	26
Teachers	70
Total	**98**

Source: Education Office, North Imenti, Meru County.

3.5 Sample Size and Sampling Procedures

According to Bryman (2016), the sample is a collection of units selected to represent the total population. This research sampled teachers and Head teachers in junior secondary schools of the North Imenti constituency. According to the education office of the North Imenti constituency, there are 26 head teachers and 70 teachers in 26 public junior secondary schools. According to Mugenda and Mugenda (2012), in descriptive survey research, 10 - 30% is an excellent representative sample of the population. The sample size was calculated using the following Yamane's formula.

$$n = \frac{N}{1+N\,(e^2)} \qquad (3.1)$$

Where n = sample size

N = population size = 98

e = confidence level =0.05

$$n = \frac{98}{1+98\,(0.05^2)} = 79$$

Although the recommended sample size was 79, the study used 30% stratified sampling approach, where according to Mugenda and Mugenda (2012) is acceptable for educational research. Hence, the sample size for this study was 31 as shown in table 2.

Table 2

Determination of Sample Size

	Population	**Percentage %**	**Sample Size**	**Sampling Techniques**
Head Teachers	26	30%	8	stratified sampling
Teachers	70	30%	21	stratified sampling
Sub-county Education Officer	2		2	purposive sampling
Total	**98**	**60%**	**31**	

Schools were grouped according to strata (wards), and as per the (Kenya National Bureau of Statistics, 2019), North Imenti has three wards: Municipality, Ntima West, and Ntima East. The researcher used Stratified random sampling to choose a sample of 21 teachers and eight head teachers, where stratification was done according to strata (that is, wards in this case) such that the sample size from every stratum was equal. This sampling method was used since it helped the researcher quickly acquire the sample size for teachers and head teachers who represented the population well. Also, the researcher used purposive sampling

to select a sub-county education officer since he was responsible for monitoring, supervising, and reporting the progression of CBC implementation.

3.6 Research Instruments

According to Mugenda and Mugenda (2012), the precision of the data collected lies in the instruments used to collect that data and in terms of reliability and validity. The researcher first sought permission from the head teachers before collecting any data and assured them that all the information recorded was only for research. The collection of data took approximately one month.

The research tools that were utilized in data collection for this research included interviews and questionnaires, as discussed below;

3.6.1 Questionnaire for teachers and head teachers

This research used questionnaires to collect data from teachers and Headmasters since they are schools' main facilitators and implementers of Competency-Based Curricula. They support learning and are very responsible and knowledgeable about introducing a competency-based curriculum in the classroom. Also, they are responsible for supervising learning activities in the classroom. Questionnaires helped this research gather a vast amount of data from a broad sample in a very short period at a relatively low cost. Also, it was easy to administer and analyze questionnaires.

Questionnaires contained several open-ended and closed questions that were in definitive order. The questionnaires were divided into four parts. The first part was introduction and background information, where the researcher introduced herself and gathered some information on the background of the teachers. The second part focused on the first objective, teachers' professional development and the third part discussed the influence of

instructional materials. The fourth part was on the influence of school physical resources on the implementation of CBC in JS.

3.6.2 Interview guide for sub-county education officer

This study used an interview guide to collect data from Sub–County Education Officers since they are responsible for monitoring, supervising, and preparing reports on the progression of CBC implementation. They are also responsible for ensuring education policies and standards are adhered to in schools (MoE, 2023). Interview guides were used since they are suitable for a few respondents and help to collect detailed information on personal opinions, feelings, and perceptions. Also, the interview guide helped the researcher obtain in-depth information concerning factors affecting the implementation of CBC in junior secondary schools. The interview guide contained 12 open-ended questions. Telephone and one-on-one interviews were conducted, as the research considered the flexibility of the interviewer.

3.6.3 Observation checklist

An observation checklist is a list of items used to examine the availability of physical facilities and resources. The researcher used an observation checklist to observe the availability of instructional materials and school infrastructure in junior secondary schools. This list helped the researcher pinpoint resource gaps and identify areas that need more instructional materials, such as textbooks, laboratories, classrooms, libraries, desks, and classrooms.

3.7 Piloting

Piloting was done to identify any possible challenge that respondents are likely to encounter while filling and answering research instruments. Pilot testing was conducted by

administering questionnaires to three head teachers and six teachers from three public junior schools from different sub-county that were not included in the sample. Two head teachers and three teachers were selected from schools that were well resourced. One head teacher and three teachers were selected from schools that were under-resourced to determine whether research instruments were suitable across different school contexts.

Schools were selected from various geographical location that is urban and semi-urban to account for variation in teacher development, school physical resources and instructional materials, since the study area involved schools in urban areas and semi-urban. The pilot test findings were used to ensure the interview and questionnaire questions were well understandable to respondents, and helped to refine complex, ambiguous and redundant questions before actual data collection. Also piloting helped the researcher to determine whether respondents could complete the instruments within the specified time.

3.7.1 Reliability of measuring instruments

According to Kothari (2011), reliability refers to the consistency of test results across different instances. A reliable instrument provides consistent results, whether repeated or measured at any time (Mugenda & Mugenda, 2012). The study utilized the test-retest method to assess the reliability of the instruments. This involved administering the same research tool to the same respondents on two different occasions to determine the consistency of the instruments. Then, the correlation coefficient (r) was examined using Pearson's product-moment correlation coefficient, as shown.

$$r = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{[[n\sum x^2 - (\sum x)^2)][n\sum y^2 - (\sum y)^2]]}} \quad (3.2)$$

A reliability coefficient of more than 0.80 is sufficient, according to (Mugenda & Mugenda, 2012). The reliability coefficient of the questionnaire was 0.93.

3.7.2 Validity of measuring instruments

Validity refers to the extent to which a research instrument accurately measures what it is intended to measure. According to Sharma (2010), validity involves gathering and examining data to determine the precision of the research tools. For the research instruments to be valid, questionnaires were administered in at least two schools that were not part of the study, located in a nearby sub-county. Piloting assisted the research in checking the content validity, by ensuring all the questions in the research tools fully represented the subject matter and aligning with the objectives of the study.

3.8 Data Collection Procedures

The researcher obtained an introductory letter from the School of Education at Meru University. Next, the researcher secured a research permit from the National Council for Science and Technology. Following this, permission was sought from the Office of County Education in Meru County, which ensured access to public junior secondary schools in North Imenti Sub-County for research purposes. Through the school Head teachers, the researcher scheduled appointments with the respondents. The researcher personally administered questionnaires to the teachers and gave them enough time to complete the questionnaire. The interview schedule was conducted after booking the appointment with the Head teachers. The researcher ensured all the procedures in data collection were consistent and standardized across all the respondents to ensure the data's reliability.

3.9 Method of Data Analysis

Data cleaning began after all the data had been collected. It highlighted inaccuracies and incomplete responses, which were collected to enhance their quality. The study applied both qualitative and quantitative data analysis methods. Quantitative data was analyzed using percentages, frequency distribution, mean, and standard deviation. The analyzed data was reported using bar graphs, frequency tables, pie charts, and contingency tables. Qualitative data collected through interview guides and observation lists was analyzed through content and framework analysis. The content analysis involved categorizing verbal data from interviewees to group, summarizing, and tabulating them. At the same time, framework analysis was used to analyze qualitative data systematically, starting with familiarization and grouping them into themes, coding, and interpretation.

3.10 Logistical and Ethical Issues

The researcher acquired an introductory letter from the Meru University of Science and Technology and a research permit from the NACOSTI. Subsequently, a permission letter was sought from an education officer in North Imenti, Meru County. Additionally, the researcher approached school Head teachers to request an official visit prior to commencing research activities in those schools. All respondents were briefed about the aim of the study before completing the research, and all the data they provided were guaranteed to be confidential even after the research. The researcher was sincere with all the respondents and told them there would be voluntary participation throughout the study.

The researcher outlined clearly to the respondents that their participation was entirely voluntary and that they had a right not to participate without any consequences. If a respondent decided not to participate, the researcher respected their decision without

pressuring or judging them. Then, the data was analyzed, and a report was given on the percentage of respondents. The recorded data was analyzed accurately and truthfully to ensure credibility, and any conflict or biases of interest were disclosed.

CHAPTER FOUR: RESULTS AND DISCUSSIONS

4.1 Introduction

The study sought to investigate school-based factors influencing the implementation of a CBC in public junior schools in North Imenti, Meru County. This research was guided by the following objectives: to establish the effect of teachers' professional development on the implementation of CBC, to examine how instructional materials affect the implementation of CBC, and to determine the impact of school physical resources on the implementation of CBC in public junior schools in North Imenti, Meru County. The study worked with the following eight junior secondary schools: Kinoru, Meru Muslim, Gachanka, Njukinjiru, Meru Primary, Mwiramwanki, Gikumene, and Gitoro Junior Secondary School. This chapter analyzes, interprets, and presents data from the administered questionnaires and interviews in tables, pie charts, and graphs.

4.2 Rate of Return for Questionnaire

Questionnaires were issued to 8 head teachers and 21 teachers. Out of 29 Questionnaires issued, 27 were returned. Interviews were carried out with 2 Directors of Education in North Imenti Meru County. The total response rate for questionnaires was 93%, while the unreturned number was 7%. Hence, the response rate was acceptable, as agreed with Mugenda and Mugenda (2003), who state that a response rate that is more than 50% is adequate for interpretation and analysis of data.

4.3 Background Information of Respondents

The research sought the respondents' background information to determine their characteristics regarding their age, gender, level of education, and work experience. The response on the gender of respondents is tabulated in Table 3.

Table 3

Gender of respondents

Gender	**Teachers**	
	Frequency	%
Male	10	37
Female	17	63
Total	**27**	**100**

N=27

Source: Field data 2024

Based on Table 3, majority of teachers teaching in junior schools in North Imenti Sub-County were females (63%) and 37% males. A higher percentage of female teachers indicated that young girls have more female role models, which could positively influence their confidence and aspirations. A lower percentage of male teachers indicates under-representation, which might need to be examined to ensure male learners have enough role models in schools. Also, these data show gender disparities in the teaching workforce, which needs to be addressed to attain gender balance. These findings concur with another research done in Kericho by Chebii (2015) on aspects affecting the introduction of life skills curricula in pre-primary schools, which established that 3% of teachers were males.

4.3.1 Age group of respondents

The questionnaires sought to establish respondents' age brackets to understand their working experience as teachers while giving instructions in class. Therefore, the respondents' opinions are presented in Table 4

Table 4

Age Group of Respondents

Categories	Teachers	
	F	**%**
Below 30 years	7	26
31 – 40 years	12	44
41-50 years	4	15
51-60 years	4	15
Total	**27**	**100**

N=27

Source: Field data 2024

Based on Table 4 majority of teachers (44%) range between 31 and 40 years old, while those below 30 are 26%. Those between 41 and 50 and 51-60 are 15%, respectively. This indicates that in most schools, teaching is done by young and energetic teachers aged between 31 and 40. It also shows that the school has to replace a retiring teacher almost every year based on those due for retirement.

4.3.2 Level of education of respondents

The research sought to examine the highest professional level of education of teachers. The summary is presented in Table 5.

Table 5

Level of Professional Education of Teachers

Level of Education	Teachers	
	F	**%**
Diploma	3	15
Degree	17	85
Masters	0	0
PhD.	0	0
Total	**20**	**100**

N=20

Source: Field data 2024

Based on Table 5, the majority of teachers (85%) are bachelor's degree holders, while 15% have diplomas. These data suggest that teachers are well-educated and have a strong foundation in pedagogy and subject matter, which is essential in implementing a curriculum. Also, as most teachers are degree holders, there is a likelihood of adopting innovative teaching, such as differentiated instruction and problem-based learning, as needed by the CBC. This data indicates that all teachers in junior schools are qualified (Ministry of Education teacher education program policy guidelines, 2023).

The study sought to establish the level of professional education of head teachers. The findings are presented in Table 6

Table 6

Level of Education of Head Teachers

Level of Education	Head teachers
	Frequency
Diploma	2
Degree	4
Masters	1
PhD.	0
Total	**7**

N=7

Source: Field data 2024

Based on Table 6, four head teachers are degree holders, suggesting they have a solid academic foundation in managing schools. This could positively influence the implementation of a CBC as they are familiar with contemporary practices and theories. Two have diplomas, and the other two have Master's degrees, indicating a higher level of expertise and leadership skills that are vital in guiding other teachers to implement CBC successfully. These findings concur with research done by Wamuyu, (2020) on the influence of training head teachers on the implementation of CBC in primary schools.

4.3.3 Teachers' experience

The study sought to establish the teachers' teaching experiences since starting their careers. The respondents' findings are illustrated in Table 7.

Table 7

Teachers' Teaching Experiences

Teachers' experience	Respondents	
	F	%
Below five years	9	33
6-10 years	9	33
11-15 years	2	8
Over 15 years	7	26
Total	27	100

N=27

Source: Field data 2024

Based on Table 7, 33% of respondents have below five years of teaching experience, and the other 33% have 6-10 years of teaching experience. 8% of have 11-15 years of teaching experience, while those with over 15 years of experience are 26%. These groups have over ten years of teaching experience, indicating they have valuable experience and stability in implementing CBC, as they could offer mentor-ship and insight into effective teaching methodologies. However, they might need to become more familiar with the new CBC approach and may require more professional development to adapt to new competencies.

4.4 Teachers' Professional Development and Implementation of CBC

The first objective was to establish the effect of teachers' professional development on implementing a Competency-based Curriculum in public junior schools in North Imenti, Meru County. The first question sought to establish the type of training, frequency, number

of teachers who attended the training, and areas covered during the training. Findings are presented in Table 8.

Table 8

Type of training, frequency, number of teachers who attended the training, and areas covered during the training

Type of training	**Frequency(how many times they have attended the training)**	**Number of teachers attended the training**	**Areas of training**
Digital literacy	1	4	integrating ICT in class
Problem-solving and critical thinking	1	5	pertinent contemporary issues
Pedagogical skills	2	10	-Assessment techniques -Preparing professional documents -teaching methodologies
Creativity and imagination	1	1	Developing creativity skills
Total		**20**	

N=20

Source: Field data 2024

Table 8 shows that only one session was conducted on digital literacy, which four teachers attended, and the area covered during that training was how to integrate ICT in class. According to Adannur, (2024), ICT integration is vital for implementing CBC as it enhances learners' grasp and understanding of complex concepts. A limited number of training and few teachers attending this training could hinder teachers from creating engaging and interactive lessons to enhance the modern learning environment.

There was one training which was attended by five teachers on problem-solving and critical thinking. The area covered during that training was pertinent contemporary issues. One of the core competencies of CBC is problem-solving and critical thinking, as it emphasizes enhancing learners' analytical skills (Ongesa et al., 2023). The number of training sessions suggests that teachers cannot help learners be critical thinkers and develop innovative ideas. Hence, more training is needed for consistent application in class.

Half of the teachers attended two sessions on pedagogical skills, and the areas covered during that training were teaching methodologies, assessment techniques, and preparing professional documents. Intensive pedagogical skills training is vital for the effective implementation of CBC, as it equips teachers with knowledge and skills on various instructional methods to meet every learner's learning style and needs (Nombo, 2018). These findings indicate that the majority of teachers can prepare professional documents, assess learners, and apply current teaching methodologies. However, more training sessions should be scheduled so that more teachers can attend and extend their knowledge and skills in these areas.

Only one teacher had attended one training session on creativity and imagination training, and the area covered during this session was developing creativity skills. Creativity and

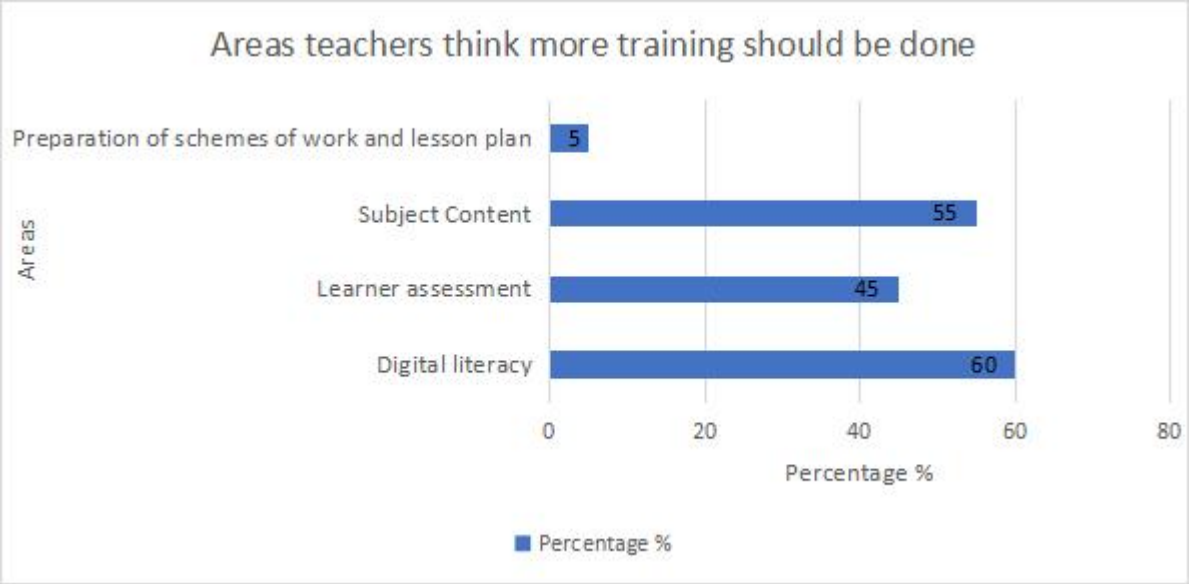
imagination are some of the core competencies of CBC that aim to enhance innovative thinking. Teachers with these skills could create engaging, thought-provoking lessons that inspire learners (Ongesa et al., 2023). This minimal teacher attendance suggests a significant gap as they might be unable to involve students in creativity to explore concepts deeply, thus limiting learners' analysis and synthesis of information.

4.4.1 Areas where teachers need more training

The study sought to establish the areas where teachers think more training should be done. Their opinions are illustrated in Figure 2.

Figure 2

Teacher response on areas where they think more training should be done



Source: Field data 2024

Figure 2 indicates that most junior school teachers (60%) think more training should be done on digital literacy. This number of teachers indicates they need more preparation to integrate digital tools. Digital literacy is essential, as CBC insists on innovative teaching methods incorporating technology in class to improve the learning experience and student

engagement and support diverse learning styles. Another 45% of teachers need more training in learner assessment. These numbers suggest that teachers must be trained in problem-solving, critical thinking, creativity, and imagination, reflecting learners' skills and understanding, to implement CBC effectively.

More than half of teachers (55%) need training on subject content. This number of teachers indicates that they have not mastered the subject matter they are supposed to teach in alignment with CBC. However, mastery of subject matter is crucial for effective teaching and delivering comprehensive and accurate information to learners. 5% of teachers need training in preparing work and lesson plan schemes. The small percentage indicates that most teachers have developed sufficient skills to organize and plan their teaching activities. This is in alignment with research done by Ondimu (2018) on teacher preparedness in the implementation of CBC, who found that 73% of teachers insisted that more training should be done on digital literacy and 23% on core competencies of CBC.

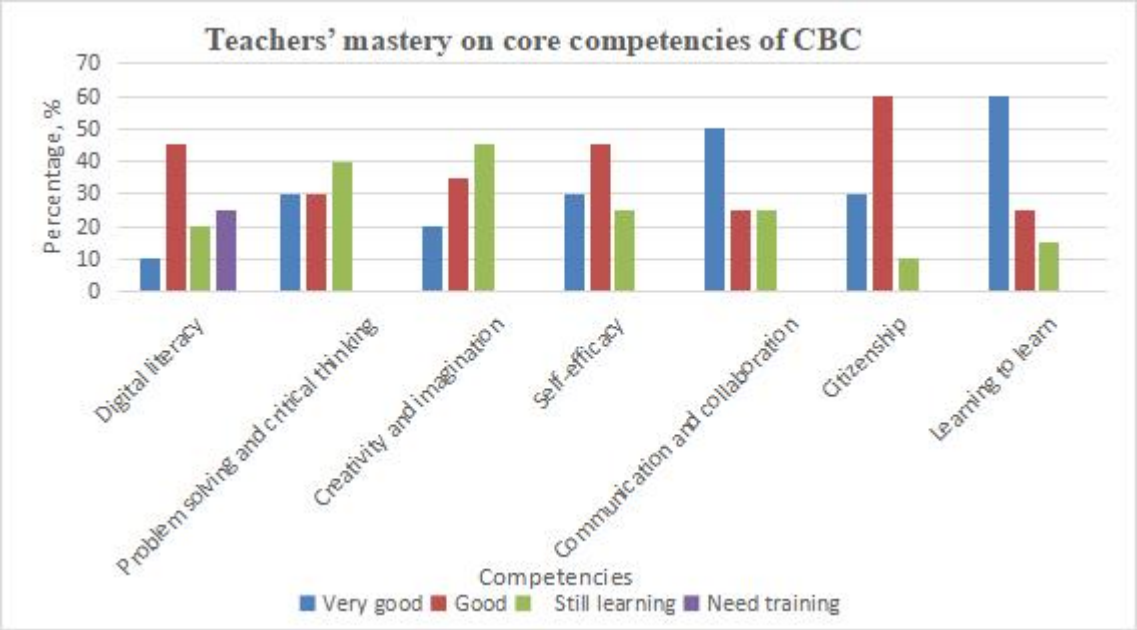
This finding concurs with KICD (2018), which revealed that only 39% had gone for ICT training. However, teachers should be well trained in digital literacy and ICT since they are core competencies in implementing CBC. This concurs with the responses from the Head teachers, who insisted more training should be done on digital literacy, problem-solving, creativity, and imagination. Also this study differ with findings established by Okello (2022) where most of the teachers indicated that they needed more training on teaching methods, since in the new curriculum required teaching methods are learner-centered compared to teacher-centered method that was used in 8-4-4.

4.4.2 Extent to which teachers have mastered the core competencies of CBC after retooling

The study sought to establish the extent to which teachers have mastered the core competencies of CBC after retooling. Their opinions are illustrated in Figure 3.

Figure 3

Teachers' Response on the extent to which they have mastered the core competencies of CBC after retooling



Source: Field data 2024

From Figure 3, a significant number of teachers are still learning (20%), and (25%) need training in digital literacy. These data align with data from Figure 2, suggesting more training should be done in digital literacy for practical usage of digital tools in class. Less than half of teachers (45%) are still learning problem-solving and critical thinking. Thus, more training should focus on this competency as it enhances analytical and independent thinking in learners, which is a crucial goal of CBC. Also, 45% of teachers are still learning

about creativity and imagination, indicating previous training might have yet to cover this competency. However, it is a vital area in CBC as it encourages creative thinking and innovation among the learners.

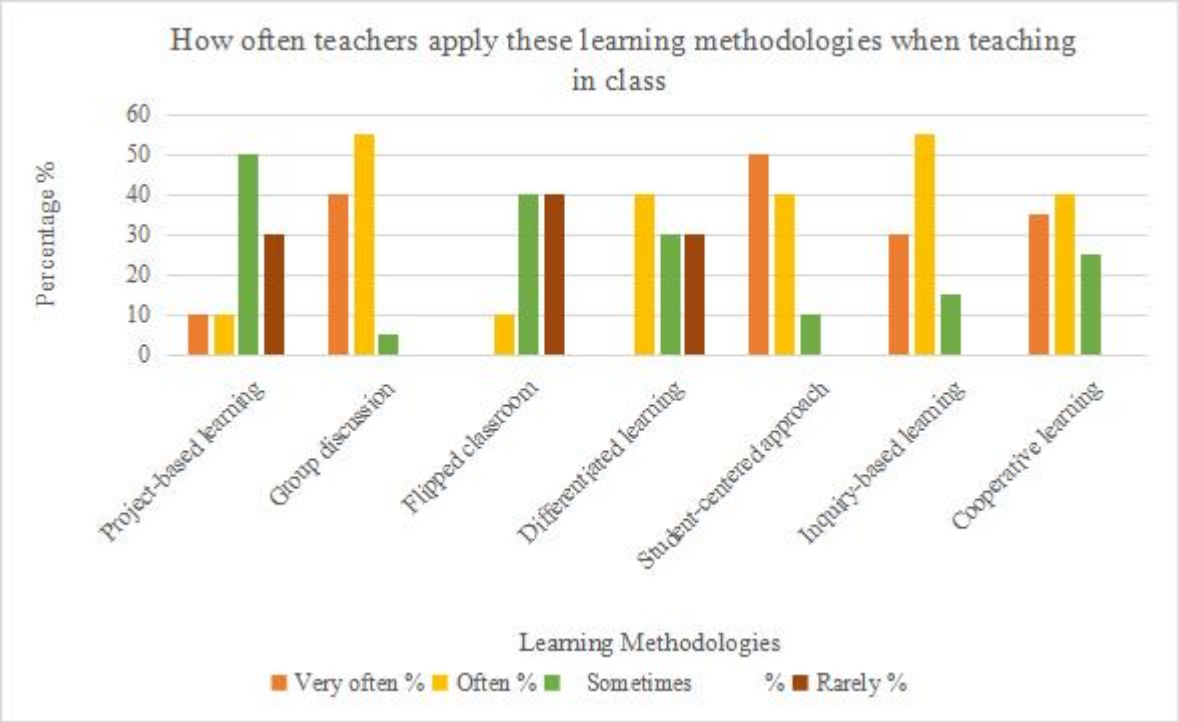
A significant number of teachers, 30% and 45%, are perfect in self-efficacy, respectively, indicating that most teachers feel confident in their ability and can deliver content effectively in class. More than half of teachers have mastered communication and collaboration; hence, they could enhance student collaborative learning and effective communication with colleagues. More than 60% of teachers have mastered citizenship. As a core competency of CBC, they will be more informed and responsible when handling school matters. These findings agree with a study by Nambua (2018) in Tanzania. The majority of teachers, 60%, have mastered learning-to-learn competency. This competency is crucial as it enhances lifelong learning habits in learners and teachers.

4.4.3 Frequency of teachers applying learning methodologies in class

The study sought to determine how often teachers apply learning methodologies when teaching in class. The findings are presented in Figure 4.

Figure 4

Teachers' Response on how often they apply these learning methodologies when teaching in class



Source: Field data 2024

Figure 4 shows that majority of teachers prefer to use group discussion (55% often and 40% very often), student-centered approach (40% often and 50% very often), and cooperative learning (40% often and 35% very often). This percentage of teachers suggests that they integrate these learning methodologies in class. Teachers mainly apply these approaches due to their effectiveness in improving learners' engagement and learning outcomes. On the contrary, learning methodologies such as project-based learning, flipped classrooms, and differentiated learning are the less frequently applied approaches.

These methodologies are unfamiliar to teachers or challenging to apply in class. These findings agree with a study by Cherotich et al., (2023) on the influence of teachers' preparedness on implementing CBC. This data implies that, even though teachers understand the potential benefit of these approaches, they might need to improve on regular use. Thus, more professional development training and support are needed to help teachers integrate these methodologies in class.

4.4.4 Extent to which teachers' professional development influence the implementation of CBC

The study sought to establish the influence of teachers' professional Development on implementation of CBC in junior school. To gather insights, head teachers were asked to indicate the extent to which they believed teachers' professional development influence implementation of CBC. Their feedback was based on a Likert scale ranging from very great to very low as shown in table 9.

Table 9

Head teachers' Response on Extent to Which Teachers' Professional Development Influence the Implementation of CBC

	Frequency	Percentage (%)
Very Great	**2**	**29**
Great	**5**	**71**
Moderate	**0**	**0**
Low	**0**	**0**
Very Low	**0**	**0**
Total	**7**	**100**

N=7

Source: Field data 2024

Data from table 9 indicate that out of seven head teachers who participated in the study, 5 of them that is 71% revealed that teachers' professional development influences implementation of CBC to a Great Extent while two, that is 29% indicated an influence of Very Great extent. However, none of the respondents indicated Moderate, Low or Very Low as their responses. This high rating on Great and Very Great shows consistent and strong perception among school leaders that teachers' professional development is important for successful implementation of CBC in junior schools.

Numerical values were given to every Likert category to help in statistical analysis, where 'Very Great' was given 5, Great was given 4, Moderate a 3, Low a 2, and Very Low a 1. Using these scores, the mean response was calculated and was found to be 4.29. These mean indicate that the average response range between Very Great and Great. The high mean

score shows a strong agreement among the Head teachers that teachers' professional development is crucial as it enable teachers to implement CBC effectively.

Furthermore, standard deviation was calculated and turned out to be around 0.49, which was relatively low. Low standard deviation indicated little variation in the Head teachers' responses meaning they were aligning. The low spread of data confirms a shared belief in the importance of continuous teacher training and its influence on equipping teachers with the knowledge, skills, and competencies required for CBC implementation. These findings concur with the study conducted by Okello (2022) where teachers were asked whether teachers' training was beneficial in the implementation of CBC. The study established that, training of teachers is beneficial as it equips with the necessary skill, knowledge and competencies that are needed in the implementation of CBC.

From the interview questions with Sub-County Directors of Education established that teacher's professional development in junior schools generally are in alignment with the aim and requirement of the Competency-based Curriculum. However, there is a gap in contextualization, depth and consistency on the training being offered. According to Mutai et al. (2024), successful curriculum change is highly dependent on the preparedness and adaptability of teachers, which is greatly influenced by the quality and relevance of their professional development. In the context of the CBC, teachers are expected to shift from content delivery to facilitation of learning, employ formative assessments, and nurture core competencies. The Sub-County Directors' acknowledgement that current professional development programs introduce teachers to CBC-related pedagogical strategies supports this framework.

However, this research found out that most retooling programs did not have subject-specific depth and failed to offer ongoing assistance after the first training sessions. Sub-County Director highlighted that, while the training teaches important concept in CBC, still teachers are not being equipped with practical strategies that are essential in the classroom. Especially areas such as ICT integration, differentiated learning and learner assessment.

Additionally, there is a concern on few or no follow-up and monitoring after teachers training echoing a study done by Koskei and Chepchumba, (2020) established that coherence and follow-up support are crucial elements in professional development. When there is no close monitoring, teachers will go back in old ways of teaching affecting the goals of CBC.

From the findings, it is evident that while Kenya's efforts to reform its education system through CBC are well-founded, the realization of its objectives depends heavily on how well teacher training programs are implemented and supported at the local level. For sustained improvement, professional development must be designed as a continuous, practice-based, and teacher-informed process. Local educational officers, school leaders, and national policymakers must collaborate to refine training programs and integrate teacher feedback to ensure relevance, practicality, and effectiveness.

Therefore, the study confirms that the alignment of professional development with CBC goals is present but still evolving. For the CBC to be implemented effectively, Kenya's education system must invest in more structured, inclusive, and context-sensitive professional learning opportunities that empower teachers to deliver competency-based learning confidently and effectively.

4.5 School Physical Resources and Implementation of CBC

The study sought to establish how school physical resources impact the implementation of a CBC in junior schools in North Imenti Meru County.

The study sought to determine the availability of infrastructure in 8 schools. The findings were presented in Table 10

Table 10

Availability of infrastructure in schools

School Name		classrooms	Science labs	Library	Open field	Computer labs	Agricultural plots	Workshops
School A	Available and enough	✓			✓			
	Available but not enough					✓	✓	
	Not available at all		✓	✓				✓
School B	Available and enough	✓			✓	✓	✓	
	Available							

	e but not enough							
	Not available at all		✓	✓				✓
School C	Available and enough							
	Available but not enough	✓						
	Not available at all		✓	✓	✓	✓	✓	✓
School D	Available and enough	✓	✓			✓		
	Available but not enough			✓	✓			
	Not available at all						✓	✓

School E	Available and enough					✓		✓	
	Available but not enough	✓							
	Not available at all		✓	✓		✓			✓
School F	Available and enough					✓			
	Available but not enough	✓						✓	
	Not available at all		✓	✓		✓			✓
School G	Available and enough	✓							
	Available but not			✓		✓		✓	

	enough					
	Not available at all		✓		✓	✓
School H	Available and enough			✓	✓	
	Available but not enough	✓				
	Not available at all		✓	✓	✓	✓

N=8

Source: Field data 2024

Table 10 indicates that three schools had enough classrooms, whereas the other five schools had insufficient classrooms to meet their needs. These findings concur with Ngeno (2022) that established that classrooms were not enough. Adequate classrooms enhance learner-teacher interaction, effective classroom management, and personalized learning (Masud et al., 2023). Enough classroom space enhances teaching methods such as practical activities, interactive sessions, and group work, which are essential as CBC focuses on student-centered learning. Those five schools with insufficient classrooms were overcrowded, and it was challenging for teachers to control many learners effectively. Overcrowded classrooms

make it difficult to implement interactive learning activities, which are critical in CBC and impede skill development and personalized learning.

School D and school H have computer labs, while in school C, F, and G, are not available, and in school A, B, and E, computer labs are available but not enough. While the implementation of CBC emphasizes the integration of ICT and digital literacy in learning, limited access to computer labs may hinder learners from getting hands-on experience with technology. All eight junior schools lacked science labs. The absence of science labs and lab equipment might severely affect science education, as CBC advocates for learners to learn through experiments and action to foster creativity and innovation.

There are open fields in 4 schools, with three schools having insufficient open fields and one school having none. Open fields are crucial for extracurricular activities and physical education, which are vital in implementing CBC. Inadequate open fields could affect learners' engagement in these activities and physical development. These findings concur with a research done by Kibet (2023) where established that there is a positive relationship between the availability of playing fields and successful implementation of competency-based curriculum. Schools with enough open fields are likely to implement competency-based curriculum effectively. Therefore, it is crucial for all schools to make sure adequate and open fields to enhance successful implementation of Competency-Based Curriculum.

Three junior schools have libraries. Two of them possess libraries, although they are inadequate, and the remaining three do not have at all. Libraries are critical components in implementing CBC for self-study, research, and reading. Insufficient accessibility of libraries might limit learners' research activities and ability to do independent learning. The

data indicate a significant gap in the availability of school physical resources, which could negatively influence the execution of CBC in junior schools.

One school has Laboratory equipment, two schools have no laboratory equipment, and five schools have some laboratory equipment but not enough. These data imply that, even if science labs are available, inadequate laboratory equipment might affect the quality of science education, as learners might not be able to learn by experimenting (Cherotich, 2023).

School E and H have enough agricultural plots for practicing agricultural activities, while in 4 schools, agricultural plots are not enough, and in 2 schools, they are unavailable. Schools with enough agricultural plots could integrate agricultural activities into their learning, fostering hands-on learning, which is crucial in implementing CBC. These schools could involve learners in practical activities such as cultivating and planting, which are vital for understanding agricultural concepts and enhancing practical skills. The four schools and two schools with inadequate agricultural plots might need help to offer learners adequate agricultural practices, limiting their exposure. These results agree with study done by Raut et al. (2020) that established that inadequate agricultural practices could result in overcrowded agricultural activities, lowering the quality of hands-on learning.

There were no workshops in all eight schools. Workshops are essential in fostering technical and practical components in implementing CBC, as they help learners develop practical skills and experience hands-on learning for technical careers (Muchira et al., 2023). The lack of these facilities indicates that the curriculum is still taught in theoretical form, hindering the acquisition of practical competencies and, hence, lowering student engagement and

motivation. Therefore, it is crucial to address this resource gap for effective implementation of CBC.

4.5.1 Degree to which school infrastructure affect implementation of CBC in schools

The study sought to establish the degree to which school infrastructure affect implementation of CBC in junior schools in North Imenti Meru County. The findings were presented in Table 11 as indicated 1-vey great, 2-great, 3- moderate, 4-low and 5-very low.

Table 11

Extent to Which School Infrastructure Affect Implementation of CBC Schools

	1		2		3		4		5		TOTAL	
	F	%	F	%	F	%	F	%	F	%	F	%
Enough classrooms	9	45	5	25	6	30	0	0	0	0	20	100
Availability of ICT infrastructure	7	35	4	20	2	10	4	20	3	15	20	100
Availability of workshop	2	10	4	20	6	30	3	15	5	25	20	100
Availability of science lab	8	40	9	23	3	15	0	0	0	0	20	100
Availability of playground	6	30	9	23	5	25	0	0	0	0	20	100
Availability of small plots for agricultural practices	0	0	3	15	7	35	2	10	8	40	20	100

N=20 Source: Field data 2024

From the finding in table 11 shows that school infrastructure significantly affects implementation of CBC in junior schools. Classrooms were identified as the major factor, where 45% of the respondents acknowledged a very great while 25% acknowledged great impact. Science laboratories indicated a high influence with 40% of respondents

acknowledging a very great impact while 23% indicating a great impact. Also, playgrounds were considered as important facility for implementation of CBC as 30% of the participants indicated the impact was very great while 23% rated it as great.

However, ICT infrastructure had a more varied response, where 35% indicated very great while 15% indicated a very low impact. These responses indicated the access to ICT resources was not consistent in most of the schools. This findings contradicts a study done by Ngeno (2022) where established that insufficient ICT facilities hinder successful implementation of CBC especially in rural areas.

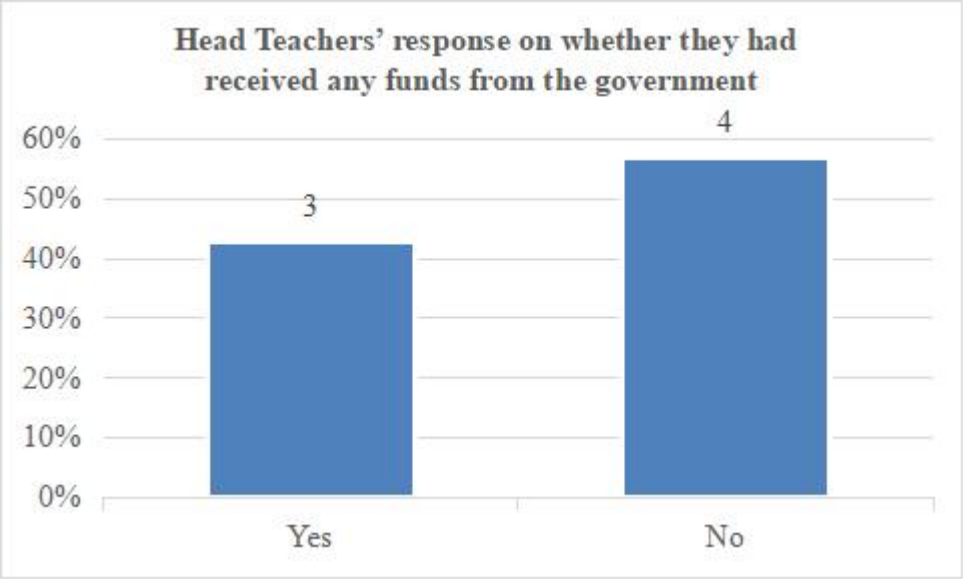
Also a research from Adan and Kenei (2023) on influence of provision of school resources on CBC implementation in junior schools, established that schools with modern infrastructure such as digital resources and science labs had a smoother CBC adaptation than those schools without. Agricultural plots and workshop indicated a lower impact where 30% indicated a moderate while 40% indicated very low impact. Since CBC emphasizes on practical and hand-on learning, lack of agricultural plots is a concern since agricultural is a critical learning area. These findings differ with Ngeno et al. (2021), that established since CBC is a practical oriented curriculum, adequate land for agricultural practices and tools is essential for successful implementation of the curriculum.

4.5.2 Government funds to facilitate the construction of junior school infrastructure

The study sought to establish whether head teachers had received any funds from the government to facilitate the construction of junior secondary school infrastructure; their responses were presented in Figure 5.

Figure 5

Head Teachers' response to whether they had received any government funds for the construction of school infrastructure



Source: Field data 2024

Based on Figure 5, three head teachers had received funds from the government, while four had not. This data indicates that more than half of schools still need to receive the funds to facilitate the construction of school infrastructure. This response concurs with the head teachers' response on the financial challenges experienced by the school when improving school infrastructure to implement its infrastructure to implement CBC in junior schools. These challenges include insufficient funding, inadequate resources, and uncooperative BOM. The current study agrees with research conducted by Kigwilu and Akala (2017) on the usage of materials in implementing the curriculum. The study stated that many learning institutions face the challenge of insufficient physical resources.

The study sought to determine the school plans head teachers had to address any identified gaps in physical resources to support CBC implementation in the future. Their response was to seek support from stakeholders such as BOM and the Ministry of Education, seek assistance from CDF and NGOs, and hold fundraisers to construct more school physical resources.

The study sought to establish the mechanism by which Sub-County Education directors ensured regular maintenance and upkeep of physical resources required for CBC. They conducted regular inspections, reported inventory management, conducted regular audits and evaluations, and allocated emergency funds for maintenance.

The interview findings established that Sub-County Education Officer access the adequacy of school infrastructure and physical resource by regularly visiting schools to inspect classrooms, libraries, playgrounds and sanitation facilities by using standardized assessment tools or checklists. Sub-county education officer analyses the availability of facilities and student population to check whether they are sufficient or they are overcrowded.

From interview findings, Sub-County Education Officer ensure effective budget allocation for necessary physical resources in schools by determining the resource mapping and gaps in school infrastructure such as, classrooms, libraries, laboratories, ICT resources and other CBC-Specific requirements. From the study findings, fund allocation is done equitably based on factors such as learners' enrollment, the location of the school, unique needs of every school, and ensuring underprivileged schools get enough resources. Funds from the ministry of Education's capitation grants, county allocation, and Constituency Development Fund (CDF) is crucial when it comes to financing school physical resources. To ensure accountability, and transparency, the management of funds is monitored closely through

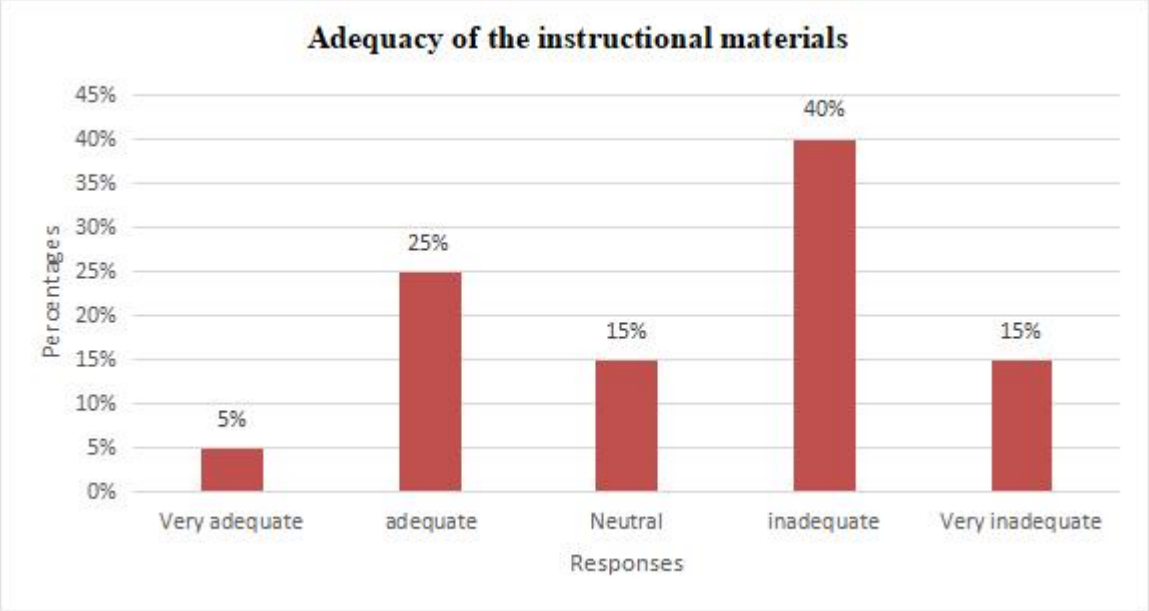
financial supervision, regular audits, and involving Boards of Management (BoMs), and Parents Associations to ensure effective allocation and utilization of funds.

4.6 Instructional Materials and Implementation of CBC

The third objective sought to determine how school instructional materials affect the implementation of CBC in junior schools in North Imenti Meru County. The study sought to determine the adequacy of the instructional materials for implementing CBC in classrooms. Their opinions are presented in Figure 6.

Figure 6

Teachers' response on the adequacy of the instructional materials for implementing CBC in classrooms



Source: Field data 2024

Based on Figure 6, 5% and 25% of teachers consider instructional materials offered in schools adequate for implementing CBC in JS. While 15% are neutral, most teachers (40%) consider instructional materials inadequate, while 15% say materials are very inadequate.

Inadequate instructional materials hinder the potentiality of learners to understand and fully relate concepts taught in class. These findings are in agreement with a research done by Sidow (2022) that established that a lack of instructional resources make teaching and learning difficult since learners cannot complete their homework on time. It is also in agreement with a research done by Okongo et al. (2015) that established that a lack of instructional materials negatively affects the implementation of any curriculum.

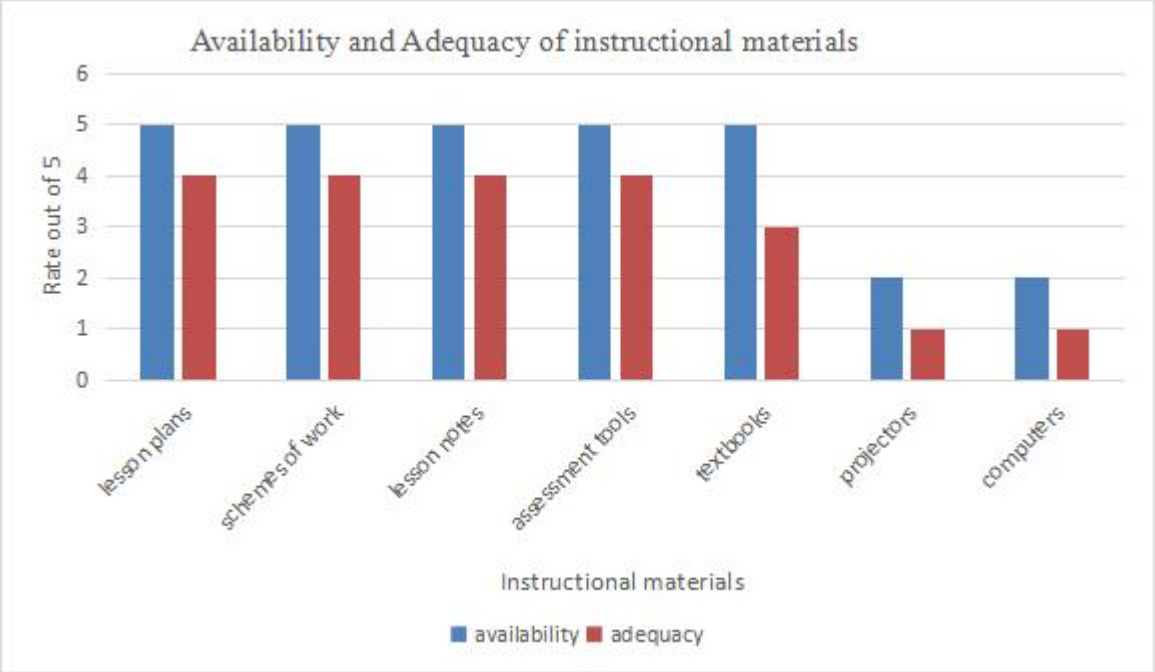
Teachers need adequate teaching and learning resources for the efficient implementation of CBC. Inadequate materials indicate that teachers need help implementing the curriculum effectively. This implies that educational stakeholders should prioritize the provision of adequate and necessary instructional materials.

4.6.1 Availability of instructional materials in junior schools

The study sought to establish the availability and adequacy of instructional materials in junior schools, and the results were summarized in Figure 7.

Figure 7

Availability and adequacy of instructional materials in junior schools



Source: Field data 2024

Figure 7 shows that lesson plans, schemes of work, lesson notes, assessment tools, and textbooks are highly available and adequate. These data suggest that critical instructional materials are well-provided and adequate to support teaching in class. They also indicate that teachers are well-equipped with crucial resources to plan, assess, and execute the lessons effectively, which is fundamental for the successful implementation of CBC.

Moderate availability and low adequacy of computers and projectors indicate a significant gap in integrating technology into the learning process. Since CBC insists on student-centered learning and interactive learning, inadequate digital tools could hinder the effective implementation of these interactive teaching methodologies. Also, due to insufficient digital support, learners might fail to benefit from essential aspects of the curriculum that come

with digital literacy and innovative problem-solving skills. Therefore, strategic allocation of digital resources should be considered to make sure all students have equitable benefits from these resources. These findings concur with a study by Betty (2006) that established that the unavailability of instructional materials can directly influence the implementation of any curriculum. To ensure equity in allocation and distribution of materials, it is crucial to involve all head teachers to ensure these materials meet the specific needs of every school (Cherotich, 2023).

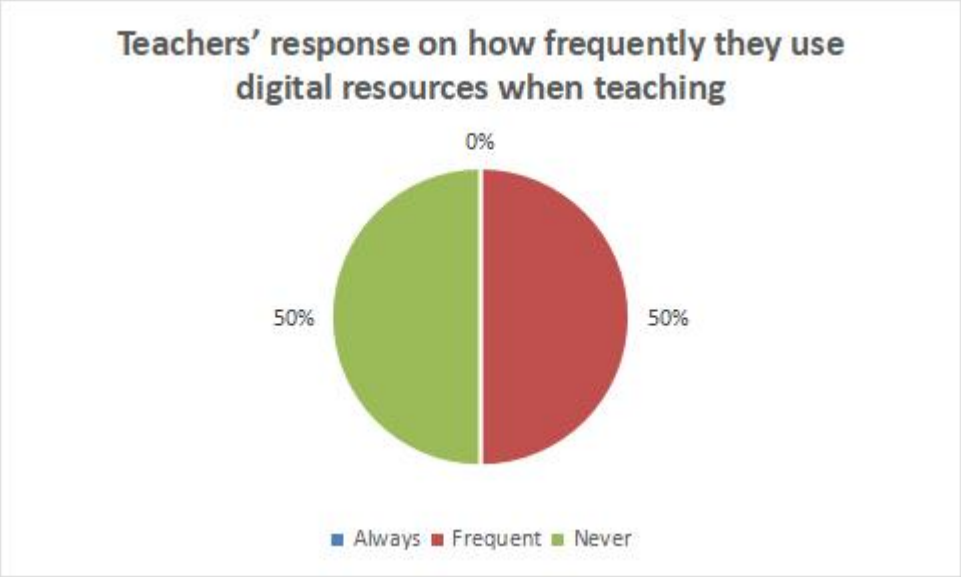
Furthermore, the Sub-County Education director highlighted the strategies to ensure equitable distribution of instructional materials among schools and classes, including checking on student enrollment and performance data, maintaining accurate inventory records, conducting audits, and ensuring a feedback mechanism from the head teachers.

4.6.2 Teachers' uses of digital materials in teaching

A study sought to establish how frequently teachers use digital resources when teaching in class to improve the implementation of CBC in class; the findings are presented in Figure 8.

Figure 8

T*eachers' response on how frequently they used digital resources when teaching*



Source: Field data 2024

From Figure 8, 50% of teachers frequently use digital resources when teaching, primarily sciences and mathematics, where they demonstrate 3D models and illustrate complex structures to help learners understand. The platforms that most teachers use include YouTube for educational channels, Google Docs for creating documents, and Canva for designing visual content for learners. At the same time, the other 50% do not use them. These findings concur with a study done by Cherotich (2023) that established that the least used instructional materials were digital tools. The difference in these responses shows that teachers must use digital resources more consistently. 50% of teachers who do not use digital resources imply that there could be a significant barrier. These barriers could be the unavailability of digital resources, lack of training, or confidence in using digital tools.

Training should be conducted to encourage teachers to apply digital tools, and focus more on improving the confidence of teachers while integrating digital literacy in class.

Inconsistency in the use of digital tools can influence the implementation of CBC. Digital resources help students become independent and quickly grasp the content, as it is one of the core competencies of CBC (Makunja, 2016).

4.6.3 Influence of learning materials on implementation of CBC

The study sought to examine the influence of learning materials on the implementation of CBC in junior schools in North Imenti Meru County. The finding was presented in table 12 in a Likert scale of 1-5, where 1-Very Great, 2-Great, 3-Moderate, 4-Low and 5-Very Low.

Table 12

Teachers' Response on Influence of Learning Materials on Implementation of CBC

	1		**2**		**3**		**4**		**5**		**Total**	
Learning Materials	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
Availability of course books	17	85	3	15	0	0	0	0	0	0	20	**100**
Availability of teachers' guide	14	70	5	25	1	5	0	0	0	0	20	**100**
Adequacy of teaching aids	9	45	6	30	3	15	2	10	0	0	20	**100**
Availability of digital resources	12	60	7	35	1	5	0	0	0	0	20	**100**

N=20

Source: Field data 2024

Findings from table 12 indicated that 85% of teachers agree in a Very Great extent that availability of course books influence the implementation of CBC. While, 15% of

respondents noted it at a Great Extent. No respondent selected moderate, low or very low. These findings show that course books are very crucial when it come in delivering content in CBC. These results agree with Chacha and Onyango (2022) despite teachers having curriculum design, it will be difficult for students to learn new things if course books are not available. The new curriculum insists on acquiring competencies through organized and activity-based content in some well-structured designed textbooks. Lack of these materials compromise curriculum delivery, since learners lack proper reference points and learning experiences.

On availability of teachers' guides, 70% of teachers agreed that teachers' guides have a very great influence on implementation of CBC, while 25% indicated a great influence, with only 5% rating a moderate influence. None of the respondents indicated low or very low. These finding implied that teachers' guides are vital tools that help teachers in designing lesson plans, selecting teaching methodology and appropriately assessing learners. Implementation of CBC is a shift from teacher-centered to student-centered methodologies. Lack of a well-structured teacher support can lead to incorrect and inconsistent in the implementation of new curriculum.

Finding on teaching aids was more distributed where 45% of respondent indicated a very great extent, 30% of them indicated a great extent, 15% on moderate and 10% on a low extent. While most of the teachers, that is 45% and 30% indicated the importance of teaching materials, the distribution of responses show variability in access and use across various schools. Teaching resources such as charts, laboratory equipment, agricultural tools, visual models, and manipulative materials are vital in enhancing hands-on learning which is

very importance in CBC. Teachers that rated low extent indicated disparities in availability of materials among the schools and educators.

On digital materials, 60% of teachers indicated a very great influence, 35% on a great extent while only 5% indicated a moderate extent. Digital literacy is a core competency in the implementation of CBC. These findings indicated an increasing use of digital tools and its recognition to improve learning in the new curriculum. Teachers indicated that use of digital content, enhance personalized learning, improve students' engagement, and enhance creativity when delivering content. However, lack of digital tools and stable internet connectivity is still a challenge, especially in public and rural schools, which may hinder successful implementation of Competency-Based Curriculum. These findings concur with a study done by Rupia (2024) that established that digital tools help students to understand easily. Also it helps them to be independent learners which is a core competency in CBC.

The findings of this study concur with the existing literature, insisting that teaching and learning materials are crucial for successful implementation of CBC. Mwita et al. (2022) established that, learning materials help students to have a practical experiences which enhance them to develop concepts and skills. Even a well-trained teacher can be considered ineffective in an environment where there is no or inadequate instructional material (Ngao & Kirimi, 2023)

Similarly, a study done by Jelagat (2023) posits that availability of guides that are in alignment with CBC, and teacher preparedness greatly affect implementation of new curriculum in schools. The research established these guides offer pedagogical guidelines and bridge the gap between classroom practice and curriculum policy. The current study

supports these findings, where 95% of respondents indicated teachers' guide greatly influence the implementation of CBC.

There was a mixed response from Sub-County Education Officer on availability and accessibility of CBC-specific instructional materials in junior schools. Their responses shown both the progress in accessing resources that are in alignment to CBC and the existing gap that hinder effective learning and teaching. Sub-County Education Officer acknowledged that Ministry of Education has made efforts to distribute essential resources such as teachers' guide, curriculum design, textbooks and learning aids. However, the supply of these resources is still uneven across many schools. In particular, schools in urban areas were described to be well resourced compared to schools in rural areas.

Another issue raised by Education Officer was inadequacy of technical materials and applied subjects such as, home science, pre-technical studies, agriculture and performing arts. These learning areas need hand-on resources and specialized spaces like laboratories and workshops where most of schools do not have. The Officers also indicated that digital resources such as eBooks were largely unavailability especially to schools without reliable internet connectivity or ICT infrastructure. These findings concur with Kibet (2023) who established that availability digital tools are crucial in the implementation of CBC in Kenyan schools.

Responses from Sub-County Education Officers generally indicate uneven distribution of CBC resources within the sub-county. While the government has put effort on curriculum development and distribution of materials, still there are several logistical and structural challenges preventing successful implementation of CBC. However, depending too much on improvisation or localized solutions, will lead to educational inequality especially to schools

with weaker leadership or community with less resources. Therefore, there is a need to develop a comprehensive framework that will ensure equity in distribution of resources, one that will look on school context, population of learners, and in every learning area of the CBC.

Responses from Sub-County Education Officer concur with responses from Head teachers on challenges in procuring and maintaining instructional materials in the implementation of CBC. The most cited challenges include, insufficient and inconsistency funding from the Ministry of Education. While the government offer capitation grants, school heads indicated that these funds are delayed or inadequate to cover all resource required in the implementation of CBC. These findings are in consisted with Muchira et al. (2023) who established that public secondary schools that are in rural areas face challenges in implementing CBC because of unreliable financing. When funds are not released on time, schools will not be able to acquire the updated course books, laboratory equipment, digital resources or even teaching aids needed for practical learning.

CHAPTER FIVE: CONCLUSION, RECOMMENDATIONS AND PUBLICATION

5.1 Introduction

Chapter 5 is an overview of the study, conclusions, recommendations, and suggestions for further study. The research summary focused on the findings of school-based factors influencing the implementation of a CBC in public junior schools in North Imenti Sub-County, Meru County. Based on the study findings, conclusions and recommendations were made.

5.2 Conclusion of the study

This research aimed at investigating the influence of school-based factors on the implementation of CBC in public junior schools in North Imenti, Meru County. The following objectives guided the research; the first one was to establish the effect of teachers' professional development on the implementation of CBC, to investigate how instructional materials affect the implementation of CBC, and to establish the impact of school physical resources on the implementation of CBC in public junior schools in North Imenti, Meru County.

The research applied descriptive survey design. The research population was 2 Sub-County Education directors, 26 head teachers, and 70 public junior school teachers. The study applied stratified sampling method to make sure all the Sub-Counties were well represented. The sample size for this study was 2 Sub-County Education directors, eight head teachers, and 21 public junior school teachers. The study used Questionnaires, interview guides, and observation checklists to gather data where it was analyzed quantitatively and qualitatively.

5.2.1 Teachers professional development and implementation of Competency-Based Curriculum

The first objective of this research sought to determine the effect of teachers' professional development on the implementation of a CBC in public junior schools. The findings show that 95% of junior school teachers had attended CBC training**.** These findings indicated that most teachers had been introduced to implementing CBC in junior schools in North Imenti. Ten percent of these teachers had attended more than three times, while 90% had attended only once. These findings imply that more training sessions are needed to equip teachers with pedagogy skills required for new curriculum. More training sessions can assist a teacher in enhancing his or her interest in teaching (Abdullahi, 2019).

Most junior school teachers suggest more training should focus on digital literacy, learner assessment, subject content, and preparing teaching documents. Head teachers confirmed that teacher professional development aligned with the educational school's goal.

Learning methodologies that most teachers prefer to use in class include group discussion, student-centered approach, and cooperative learning. Teachers mainly apply these approaches due to their effectiveness in improving learners' engagement and learning outcomes. On the contrary, learning methodologies such as project-based learning, flipped classrooms, and differentiated learning are the less frequently applied approaches. This indicate that, even if teachers understand the benefits of these approaches, they need to improve their regular use. These findings indicated that more professional development training and support are needed to help teachers integrate these methodologies in class.

From the findings, it can be concluded that professional development is perceived as a critical enabler in the rollout of CBC. The data supports the notion that well-prepared and frequently trained teachers are more capable of understanding and applying CBC principles such as learner-centered pedagogy, formative assessment, integration of values, and cross-cutting issues. As such, these results reinforce the importance of institutionalizing regular professional development programs to enhance the capacity of teachers, thereby strengthening the overall implementation process of the Competency-Based Curriculum in junior schools.

From the findings, teachers' professional development is a vital factor in the implementation of CBC. The findings indicated a strong and consistent belief that it is crucial to equip teachers the relevant skills and knowledge that are needed in the implementation of CBC. Therefore, for successful implementation of CBC, Ministry of Education, and all other education stakeholders should organize more teachers' in-service training programs, enhance peer learning and mentorship among the teachers, and allocate funds, especially for teachers' professional development.

5.2.2 School physical resources and implementation of CBC

The second objective of this research sought to establish how school physical resources influenced the implementation of CBC in junior schools in North Imenti Meru County. From the results of this research, basic physical resources such as classrooms and open fields are not enough for the successful implementation of CBC in JS. Physical resources for instance libraries, computer labs, science labs, workshops for pre-technical studies, small plots for agricultural practices, home science rooms, counseling rooms, languages rooms, music rooms, and art rooms are nonexistent, with 95% unavailable. This implies that junior

schools require better allocation of physical resources and government support to ensure that essential resources are available and sufficient. The lack of music, art, and language rooms indicates that schools need help providing a holistic education that includes extracurricular and co-curricular activities.

Teachers established that classrooms, ICT infrastructures, workshops, open fields, and science and computer labs greatly influence the execution of CBC. These results established that developing and maintaining crucial physical resources, such as science labs, classrooms, workshops, and ICT infrastructure, should be prioritized to implement CBC in junior schools effectively. These findings concur with a research done by Holmes and Foth (2017), where they established that inadequate physical resources greatly influenced the execution of CBC in schools.

5.2.3 Instructional materials and implementation of CBC

The third objective sought to investigate the impact of school physical resources on the implementation of CBC in public junior schools in North Imenti, Meru County. From the findings of this research, teachers need adequate teaching and learning resources for the efficient implementation of CBC. Inadequate materials indicated that teachers need help implementing the curriculum effectively. These findings suggested that educational stakeholders should prioritize providing adequate and necessary instructional materials.

Response from Head teachers showed a mixed perception concerning the adequacy of instructional materials for implementing CBC in junior schools. Three head teachers confirmed that the instructional materials were adequate, while another three established that they were not adequate. These inconsistent responses implied that there might be an uneven distribution of instructional materials across various JS in the North Imenti Sub-County. To

ensure equity in allocation and distribution of school resources, it was crucial to involve all head teachers to ensure these materials meet the specific needs of every school.

Half of the teachers applied digital tools in class, while the other half did not. Half of the teachers who do not use digital resources implied that there could be a significant barrier. These barriers could be inadequacy of digital tools, lack of training, or lack of confidence when using digital tools. Specific training should be conducted to encourage use of digital tools by teachers and focus more on uplifting their confidence and skills in integrating digital literacy in class. Inconsistency in the use of digital tools could influence the implementation of CBC. Digital resources helped students become independent and quickly grasp the content, which is one of the core competencies of CBC.

Based on the findings of this research, most junior school teachers had undergone training on implementing CBC. More training should be done on digital literacy, learner assessment, subject content, and preparing schemes of work and lesson plans. Head teachers confirmed that the professional development opportunities offered by the teachers aligned with the educational school's goal. Learning methodologies that most teachers preferred to use in class included group discussion, student-centered approach, and cooperative learning. On the contrary, learning methodologies that are less applied include project-based learning, flipped classrooms, and differentiated learning.

This research found out that teachers' professional development significantly influences the effective implementation of CBC. From the findings 95% of teachers have gone for CBC training, and these was rated in terms of their impact on assessment practices on students, classroom pedagogical, and curriculum interpretation. This high rating indicated that teachers' professional development is vital enabler of the execution of curriculum. However,

the study highlighted some challenges such as inconsistency in the training of teachers, and few or no follow up support especially in schools that are in remote areas.

These findings concur with Jeanne and Mukamazimpaka (2020) who established that even though the government of Kenya had put effort on training teachers on implementation of CBC, the nature of the training and short duration, affected its impact. Also Otieno and Sakani (2024) cited that teachers need more training especially on subject-specific methodologies, pedagogy, and learner assessment under CBC. In comparison to other studies, a study conducted in Ghana by David (2020) established that when teachers are well supported in a systematic structured professional learning community, there will be successful implementation of the curriculum. These findings indicate the importance of providing school-based professional learning environments that enhance peer training, continuous reflection, and shared practice which is not there most of the teachers' professional development models in Kenya.

School physical resources are critical factor in the implementation of CBC. Even though the government has made progress in constructions of classrooms, there still an existing gap in provision of other physical resources. School physical resources such as libraries, computer labs, science labs, workshops for pre-technical studies, small plots for agricultural practices, home science rooms, counseling rooms, languages rooms, music rooms, and art rooms are nonexistent, with 95% unavailable. The study also established that classrooms, ICT infrastructures, workshops, open fields, and science and computer labs greatly influence the implementation of CBC.

This findings concur with Ogembo (2025) that established that inadequate of school infrastructure hindering the implementation of CBC in Kenya especially in junior schools.

Likewise Awiti (2023) cited that without supportive infrastructure such as digital resources, libraries and laboratories implementation of CBC is hardly achieved. The role of adequate school infrastructure promotes participatory, skill-based learning in the implementation of curriculum. Therefore, this study affirms that school physical infrastructure is not only a support element, but also a key enabler in the implementation of Competency-Based Curriculum.

The study found that availability and adequacy of CBC instructional resources significantly influenced implementation of CBC. While majority of the schools had course books and teachers' guide, some instructional materials such as digital tools, teaching aids were not evenly distributed in some schools. These findings align with Gitau (2022) that established that majority of public schools received less updated CBC materials especially the digital content. Uneven distribution of instructional materials particularly in rural areas leads to inconsistencies in the implementation of CBC across Kenyan Junior schools. This research concur with Owuondo (2023) who established that inadequate learning resources prevent full realization of learner-centered curriculum approaches. These findings affirm that availability of instructional materials are crucial in the implementation of CBC and any insufficient in any form should be addressed to ensure equity and inclusivity in learning outcomes in CBC.

5.3 Recommendations

The following are the main recommendations drawn from the findings and conclusion of this study:

The MoE, and TSC should make sure there is continuous teachers' professional development which is practical and meet real classroom needs. It is recommended that the

MoE and TSC institutionalize continuous, well-structured professional development programs for teachers that are not only frequent but also tailored to the evolving needs of the CBC classroom. The study revealed that many teachers feel underprepared to fully deliver the learner-centered approaches demanded by CBC. As such, in-service training programs should go beyond theoretical workshops to include practical sessions, classroom simulations, and coaching opportunities that help teachers translate CBC principles into actionable teaching strategies.

Moreover, training should address specific competencies such as differentiated instruction, integration of ICT in lessons, the use of formative and performance-based assessment, and facilitation of project-based learning. The inclusion of teacher mentorship programs, professional learning communities, and regular lesson study practices could further help educators reflect on their teaching and continuously improve it. Importantly, training sessions should be scheduled with sensitivity to teachers' workloads and should be accessible to those in rural and marginalized areas.

The MoE, should develop a strategy that will ensure all schools receive enough resources that are in alignment with CBC. To bridge the existing disparities among schools, especially between urban and rural settings, the Ministry of Education should develop and enforce a national strategy for the provision and equitable distribution of CBC-aligned teaching and learning materials. The study established that a lack of adequate instructional resources was a major barrier to effective curriculum delivery. Therefore, efforts should be made to ensure that all schools—regardless of location—receive sufficient and up-to-date materials, including learner activity books, teachers' guides, learning aids, manipulative tools, ICT equipment, and assessment tools that align with the CBC learning outcomes.

This distribution strategy should be informed by comprehensive needs assessments at the school level to ensure that resource allocation corresponds with real demand. Additionally, there is a need for mechanisms to track the usage, appropriateness, and impact of distributed materials to ensure accountability and effective utilization. Collaboration with county governments and other education partners may also enhance the sustainability and reach of this initiative.

The Ministry of Education should prioritize construction of school infrastructure such as computer labs, science labs, and workshop to support practical learning activities. Given the CBC's emphasis on practical, skill-based learning, the Ministry of Education should prioritize investment in essential school infrastructure that facilitates hands-on learning experiences. The study findings indicated that many public junior schools lack critical facilities such as computer laboratories, science laboratories, libraries, workshops for technical subjects, and creative arts spaces. The absence of such infrastructure undermines the CBC's goal of fostering innovation, creativity, problem-solving, and technical skills among learners.

Infrastructure development should be accompanied by the provision of equipment and tools relevant to each learning area. For example, science labs should be stocked with necessary chemicals and apparatus, ICT labs should be connected to stable internet, and workshops should be furnished with materials for practical subjects such as home science, agriculture, and technology. Priority should also be given to schools in underprivileged and remote areas to reduce inequality in learning opportunities. Furthermore, regular maintenance plans should be established to ensure the sustainability and safety of learning environments.

5.4 Suggestions for further studies

This study recommends the following areas for further studies

Another research should be conducted to compare various models of teachers' training and examine their effectiveness in CBC delivery. Future studies should examine the comparative effectiveness of various teacher training models in equipping educators for CBC implementation. Such research could assess pre-service versus in-service training, residential versus online training programs, and modular courses versus one-off workshops. This would provide empirical evidence on which professional development approaches are most effective in enhancing teachers' instructional practices, content delivery, assessment methods, and ability to foster core competencies among learners.

Comparative research could also include a focus on regional or county-level variations in training practices and outcomes. The findings would be instrumental in informing TSC and MoE decisions regarding scaling up successful models and phasing out less effective ones.

A study should be conducted to investigate how digital literacy among learners and teachers influence utilization of digital tools in CBC classrooms. Another area worth exploring is the impact of digital literacy levels among both teachers and learners on the integration and effective use of ICT tools in CBC. The CBC framework strongly encourages the use of digital tools to enhance teaching and learning, yet many educators and learners may lack the necessary skills or confidence to use these tools effectively.

A detailed study could investigate the extent to which digital literacy influences lesson planning, delivery, learner engagement, and digital assessment in CBC classrooms. Additionally, it could identify barriers to digital tool utilization such as inadequate ICT infrastructure, lack of training, or limited access to devices and internet connectivity. The

findings would help shape future interventions aimed at enhancing digital capacity in schools, particularly in underserved areas.

Another study should be conducted to examine how the availability of specific infrastructure influence learners' outcome in the development of skills in CBC. Further research is also needed to examine how the availability and quality of specific school infrastructure influence learner performance and the development of core competencies as defined by the CBC. This includes investigating the role of physical facilities such as science labs, ICT rooms, playgrounds, libraries, and creative arts spaces in promoting experiential learning, collaboration, creativity, and innovation.

Such studies could employ both quantitative and qualitative approaches to establish direct correlations between infrastructure and learning outcomes. The evidence generated would be valuable in justifying increased government investment in school facilities and could guide infrastructure planning and resource allocation across counties.

5.5 Publication

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REFERENCES

Abdullahi, A. O. (2019). *School Based Factors Influencing Implementation of Competency Based Curriculum in Public Pre-schools in Garissa Sub-County, Garissa County Kenya* [Thesis, UoN]. http://erepository.uonbi.ac.ke/handle/11295/107734

Adan, I. E., & Kenei, R. (2023). Influence of Provision of Physical Facilities on Implementation of Competency-Based Curriculum in Public Junior Secondary School in Banisa Sub-County, Mandera County. *African Journal of Emerging Issues*, *5*(15), Article 15.

Adan, M. A., & Orodho, J. A. (2015). Constraints of Implementing Free Secondary Education in Mandera West Sub-County, Mandera County, Kenya. *Journal of Education and Practice*, *6*(9), 102–111.

Adannur, H. I. (2024). Integrating Digital Literacy in Competency-Based Curriculum Among Junior Secondary Schools in Kenya. *African Journal of Emerging Issues*, *6*(6), Article 6.

Tumuheise A., Ssempala, F., Twinamasiko, F., & Nachuha, S., (2023). Factors affecting implementation of competence based curriculum in selected Secondary Schools of Kabale Municipality- Kabale District. *International Journal of Educational Policy Research and Review*, *10 (2)*.

Aina, J. K. (2023). Teachers' Effective Use of Educational Resources and Their Effect on Students' Learning. *ÜNİVERSİTEPARK Bülten*, *12*, 83–98. https://doi.org/10.22521/unibulletin.2023.122.4

Akala, B. M. (2021). Revisiting Education Reform in Kenya: A Case of Competency Based Curriculum (CBC). *Social Sciences & Humanities Open*, *3*(1), 100107. https://doi.org/10.1016/j.ssaho.2021.100107

Amunga, J., Were, D., & Ashioya, J. (2020). The Teacher-Parent Nexus in the Competency Based Curriculum Success Equation in Kenya. *International Journal of Educational Administration and Policy Studies*, *12*(1), 60–76. https://doi.org/10.5897/IJEAPS2020.0646

Awiti, C. M. (2023). *Factors Affecting Implementation of Competency Based Curriculum of Education in Primary Schools in Nairobi City*.

Barrick, R. K. (2017). Competence-based Education in the United States. In M. Mulder (Ed.), *Competence-based Vocational and Professional Education: Bridging the Worlds of Work and Education* (pp. 255–272). Springer International Publishing. https://doi.org/10.1007/978-3-319-41713-4_12

Bryman, A. (2016). *Social research methods* (Fifth Edition). Oxford University Press.

Chacha, J., & Onyango, D. (2022). *Challenges Faced by Teachers in Implementing Competence-Based Chemistry Curriculum in Public Secondary Schools in Nyamagana District, Mwanza, Tanzania*.

Chaudhary, G. (2015). Factors affecting curriculum implementation for students. *International Journal of Applied Research*. https://www.semanticscholar.org/paper/Factors-affecting-curriculum-implementation-for-Chaudhary/5a335a8b6ee3d14369f32a10b4b8c2e3faa9ab05

Chebii, B. D. (2014). *A Study of Factors Influencing the Introduction and Implementation of Pre-Primary School Life Skills Curriculum in Ainamoi Division, Kericho County, Kenya*.

Chepkilot, T. B., Kipkoech, L., & Keter, J. (2024). *Level of Infrastructure and Resource Preparedness in the Implementation of Competency-Based Curriculum in Public Primary Schools in Baringo County, Kenya*. *Vol.8*(Iss.3).

Cherotich, N. (2023). *Influence of Teachers' Preparedness on Implementation of Competency Based Curriculum (CBC) In Public Primary Schools in Bomet East Sub-County, Bomet County, Kenya* [Thesis, UoK]. http://ir-library.kabianga.ac.ke/handle/123456789/742

David S. O. (2020). *TEacher Related Factors Influencing Implementation of Competency Based Curriculum at Lower Primary in Luanda Sub-County, Vihiga County Kenya*.

Mwita, E., & Onyango, Y. J. M. (2022). Availability and Use of Instructional Resources on the Implementation of the Competency-Based Curriculum by Grades 1, 2 and 3 in Public Primary Schools in Migori County, Kenya. *Journal of Advances in Education and Philosophy*.

Foth, T., & Holmes, D. (2017). *Neoliberalism and the government of nursing through competency-based education—Foth—2017—Nursing Inquiry—Wiley Online Library*.

Gitau, E. T. (2022). *Influence of Provision of Resources on the Implementation of Curriculum in Public Secondary Schools in Dagoretti Sub County, Kenya*.

Hawa, M. (2025). Biology teachers' implementation of the competence based curriculum in Tanzania: Challenges and opportunities. *Journal of Biological Education*, *59*(1), 16–36. https://doi.org/10.1080/00219266.2023.2282428

IBE-UNESCO. (2023). *Competences | International Bureau of Education*. https://www.ibe.unesco.org//en/articles/competences

Isaboke, H., Mweru, M., & Wambiri, G. (2021). Teacher Preparedness and Implementation of the Competency Based Curriculum in Public Pre-Primary Schools in Nairobi City County, Kenya. *International Journal of Current Aspects*, 32–53. https://doi.org/10.35942/ijcab.v5i3.186

Jeanne, U., & Mukamazimpaka, M. C. (2020). Effect of Teachers' Preparedness on Competence Based Curriculum Implementation in Public Boarding Secondary Schools in Rusizi District in Rwanda. *Journal of Education*, *3*(6), Article 6. https://www.stratfordjournals.com/journals/index.php/journal-of-education/article/view/638

Jelagat, P. (2023). *Factors Affecting the Implementation of Competency Based Curriculum Strategy in Public Primary Schools in Uasin-gishu County, Kenya*.

Judith, G., & Chris, S. (2014). A Tale of Two Countries: Successes and Challenges in K-12 Computer Science Education in Israel and the United States. *ACM Trans. Comput. Educ.*, *14*(2), 8:1-8:18.

Kenya National Bureau of Statistics (KNBS.). (2019). *2019 Kenya population and housing census*. Kenya National Bureau of Statistics.

Kibet, P.K. (2023). Influence of Primary Schools' Infrastructure on the Implementation of Competency Based Curriculum: A Case of Bomet Central Sub-County, Kenya. *Journal of Research Innovation and Implications in Education*, *7*(2), 199–209. https://doi.org/10.59765/ksun8141

KICD. (2018). *Facilitator's Training Manual On Competency Based Curriculum | PDF | Learning | Educational Technology*. Scribd. https://www.scribd.com/document/740677298/Facilitator-S-Training-Manual-On-Competency-Based-Curriculum

Kigwilu, P. C., & Akala, W. J., (2017). Resource Utilisation and Curriculum Implementation in Community Colleges in Kenya. *International Journal for Research in Vocational Education and Training*, *4*, 369–381. https://doi.org/10.13152/IJRVET.4.4.4

Koskei, B. K., & Chepchumba, E. (2020). *TEachers' Competency as A Cornerstone on the Implementation of Competency-Based Curriculum in Kenya. A Case of Lower Primary Schools in Nakuru County*. *8*(2).

Maiyuria, M. N., Mackatiani C. I, & Gakunga D. K. (2024). Competency Based Curriculum in Kenya: Impact of Resources on Implementation of the Programme. *International Journal of Research and Innovation in Social Science*. https://rsisinternational.org/journals/ijriss/articles/competency-based-curriculum-in-kenya-impact-of-resources-on-implementation-of-the-programme/

Maxwell, S., Reynolds, K. J., Lee, E., Subasic, E., & Bromhead, D. (2017). The Impact of School Climate and School Identification on Academic Achievement: Multilevel Modeling with Student and Teacher Data. *Frontiers in Psychology*, *8*.

Ministry of Education. (2023). *MOE/SEQIP/NCB/01/2023-2024 | Ministry of Education—Kenya*.

Molapo, M. R., & Pillay, V. (2018). Politicising curriculum implementation: The case of primary schools. *South African Journal of Education*, *38*.

Momanyi, J. M., & Rop, P. K. (2019). *Teacher Preparedness for the Implementation of Competency Based Curriculum in Kenya: A Survey of Early Grade Primary School Teachers' in Bomet East Sub-County*. https://kerd.ku.ac.ke/handle/123456789/513

Muasya, E. W., & Waweru, S. N. (2019). *Constraints Facing Successful Implementation of the Competency-Based Curriculum in Kenya*.

Mubarak, A., & Aldhafeeri, M., (2017). Teachers' Readiness to Implement Digital Curriculum in Kuwaiti Schools. *Journal of Information Technology Education: Research*, *16*, 105–126. https://doi.org/10.28945/3685

Muchira, J., Morris, R. J., Wawire, B., & Oh, C. (2023). Implementing Competency Based Curriculum (CBC) in Kenya: Challenges and Lessons from South Korea and USA. *Journal of Education and Learning*, 62–77.

Mugenda O. M. & Mugenda A. G. (2012). *Research Methods* (3rd edition). Centre for Innovative.

Mutai, E. C., Chebet, E, & Oranga, J. (2024). Competency Based Curriculum Implementation and Teacher Preparedness in Public Schools in Moiben Subcounty, Uasin Gishu County, Kenya. *Journal of Research Innovation and Implications in Education*. https://doi.org/10.59765/kzxwy84

Muthoka, J. K. (2018). *Administrative Factors Influencing Principals' Effectiveness in Instructional Supervision in Public Secondary Schools in Mukaa Sub-County, Makueni County, Kenya* [Thesis]. http://ir.mksu.ac.ke/handle/123456780/2251

Mwang'ombe, A. (2021). *Competency Based Curriculum (CBC) in Kenya: Teachers understanding and skills, reality on the ground, successes, challenges and*

recommendations on the implementation of Competency-Based Curriculum (CBC) in the Kenyan schools.

Mwita, E., Edu, M., & Yambo, J. M. O. (2022). *Availability and Use of Instructional Resources on the Implementation of the Competency-Based Curriculum by Grades 1, 2 and 3 in Public Primary Schools in Migori County, Kenya*.

Ngeno B. (2022). *Determinants of Public Primary Schools Preparedness for the Implementation Competency-Based Curriculum in Kerich County, Kenya*.

Ngeno, B., Mweru, M., & Mwoma, T. (2021). Availability of Physical Infrastructure in Implementation of the Competence-Based Curriculum in Public Primary Schools in Kericho County. *East African Journal of Education Studies*, *3*(1), Article 1. https://doi.org/10.37284/eajes.3.1.344

Ngeno, B., Mwoma, T., & Mweru, M. (2021). Teachers' Attitude in Implementation of the Competence-Based Curriculum in Primary Schools in Kericho County. *East African Journal of Education Studies*, *3*, 116–129.

Nombo, U. W. (2018). *EValuation On the Effectiveness of Teachers Training Programmes in Preparing Teachers Towards Implementing Competency Based Curriculum: The Case of Sumbawanga Municipality, Tanzania*.

Nyaga, F. (2018). *ASsessment of Public Primary School Teachers Preparedness in The Implementation of Digital Literacy Programme in Public Primary Schools in Imenti North Subcounty Kenya*.

Ochako, I. K., Okwako, T., & Okoth. T. (2019). Approaches Teachers use in Teaching Imaginative Writing: A Case of Secondary School Teachers in Kakamega Central

Sub-County, Kenya. *International Journal of Academic Research in Business and Social Sciences*, *9*(5), Pages 167-176.

OECD. (2022). Education at a Glance 2022. *OECD*.

Ogembo P. O. (2025). The Implementation of Competency-Based Curriculum in Public Schools in Kenya: Challenges and Opportunities. *Indonesian Journal of Education (INJOE)*, *5*(1), Article 1.

Okello V. (2022). *Influence of School-Based Factors on Implementation of Competency-Based Curriculum in Public Primary Schools in Kajiado North-Sub County, Kajiado County, Kenya*.

Okeyo, D. A., & Kanake, L. K. (2021). A Competency-Based Curriculum for Kenyan Primary Schools: Learning from Theory. *Editon Consortium Journal of Curriculum and Educational Studies*, *3*(1), Article 1. https://doi.org/10.51317/ecjces.v3i1.209

Okeyo, S. M., & Mokua, Z. O. (2023). Preparedness of Teachers for Implementing Competency-Based Curriculum System of Education in Public Secondary Schools in Nyamira South Sub- County. *East African Journal of Education Studies*, *6*(2), Article 2. https://doi.org/10.37284/eajes.6.2.1387

Okongo, R. B., Ngao, G., Rop, N. K., & Nyongesa, W. J. (2015). Effect of Availability of Teaching and Learning Resources on the Implementation of Inclusive Education in Pre-School Centers in Nyamira North Sub-County, Nyamira County, Kenya. *Journal of Education and Practice*, *6*(35), 132–141.

Ondimu, S. M. (2018). *Teachers' Preparedness for Implementation of the Competency Based Curriculum in Private Pre-schools in Dagoretti North Sub-county, Nairobi City County*.

Ongesa, C. M., Mbugua, K., & Maweu, J. M. (2023). Investigating the Critical Thinking Indicators in Kenya's Basic Education Curriculum. *Journal of Pedagogy, Andragogy and Heutagogy in Academic Practice*, *4*(2), Article 2.

Opondo, R. O., Afwande, J., & Kamau, L. N. (2023). Challenges Facing Implementation of Competency-Based Assessment in Kenyan Primary Schools, Case of Kajiado County. *International Journal of Education and Research*, *11*. https://www.ijern.com/journal/2023/January-2023/03.pdf

Otieno, K. O. & Sakani, D. E. (2024). Effects of Professional Development Programmes on Teachers' Performance in Public Secondary Schools in Arusha City, Tanzania. *Journal of Research Innovation and Implications in Education*. https://doi.org/10.59765/pw83gfy

Owuondo, J. (2023). *Disrupting Kenya's Education System: Advancing Towards a Learner-Centered Paradigm from Traditional Time-Based Structures* (SSRN Scholarly Paper 4695595). Social Science Research Network. https://papers.ssrn.com/abstract=4695595

Rupia C. (2024). Teacher Roles in Learning Materials Management in the Implementation of Competency Based Curriculum (CBC). *ResearchGate*. https://doi.org/10.37284/eajes.5.2.801

Sifuna, D.N. & Obonyo, M. M. (2019). *Competency Based Curriculum in Primary Schools in Kenya: Prospects and Challenges of Implementation*. *3*.

Silas, H. D. (2020). *Teacher Related Factors Influencing Implementation of Competency Based Curriculum at Lower Primary in Luanda Sub-county, Vihiga County Kenya* [Thesis, UoN]. http://erepository.uonbi.ac.ke/handle/11295/153135

Sossion W. (2019). KNUT Step up Opposition to New Curriculum. *The Daily Nation 3rd May, 2019.*

Suto, I. (2023). *Creating Cambridge Learner Profiles: A Holistic Framework for Teacher Insights from Assessments and Evaluations*. https://doi.org/10.17863/CAM.100434

Syomwene, A. (2017). Teacher Support and School Environment Factors Influencing Children's Outdoor Play in Early Childhood Curriculum in Pre-schools in Kenya. *Journal of Scientific Research and Reports*, *14*(4), 1–13. https://doi.org/10.9734/JSRR/2017/33594

Tumuheise, A., Ssempala, F., Rwends, F. T., & Nachuha, S. (2023). Factors affecting implementation of competence based curriculum in selected Secondary Schools of Kabale Municipality- Kabale District. *International Journal of Educational Policy Research and Review*, *10*(2). https://doi.org/10.15739/ijeprr.23.008

Wambua, M. E. (2019). *Constraints Facing Successful Implementation of the Competency Based Curriculum in Machakos County,*

Wamuyu, M. J. (2020). *Influence of Training of Headteachers on Competence Based Curriculum Implementation in Public Primary Schools in Kiambu County, Kenya*.

Wanjiku, M. C. (2022). *Factors Affecting Effective Execution of the Competency-Based Curriculum in Primary Schools of North Eastern, Kenya.*

Waweru, J. W. (2018). *Influence of Teacher Preparedness on Implementation of Competency Based Curriculum in Public Primary Schools in Nyandarua North Sub-County, Kenya* [Thesis]. University of Nairobi.

APPENDICES

Appendix A: Questionnaire for Head Teachers

This questionnaire aims at collecting data on "School-Based factors influencing the implementation of CBC in junior secondary schools in North Imenti." The researcher reassures you that any information collected will not be disclosed anywhere, and will only be used for academic.

Please fill in all the questions by putting the tick (√) or answering in the blank space against the appropriate response.

Part I DEMOGRAPHIC DATA (kindly tick where applicable)

1. What is your gender?

   Male [ ]

   Female [ ]

   Others [ ]

2. Please indicate your age bracket?

   Below 30 years [ ]

   31 to 40 years [ ]

   41 to 50 years [ ]

   51 to 60 years [ ]

3. What is your level of education?

   Diploma in ----------

   BED in…….

   MASTER of ----------

Ph.D. in----------

Other qualification, _____

4. Indicate your teaching experience?

   Five years and below [ ]

   6-10 years [ ]

   11- 15 years [ ]

   Over 15 years [ ]

5. Indicate teaching subjects- areas of specialization_____.

PART 2 Effects of Teachers' Professional Development in Implementing the CBC.

6. How would you assess the efficiency of the teachers' professional training provided to teachers to implement the CBC?

   Excellent [ ]

   Good [ ]

   Average [ ]

   Poor [ ]

7. To what extent do the teachers' professional development influence the implementation of CBC?

   Very great [ ]

Great [ ]

Moderate [ ]

Low [ ]

Very low [ ]

8. In your view, what do teachers face as the primary barriers to fully benefiting from the professional development opportunities provided for CBC implementation?

_____

PART 3 Influence of school physical resources on implementation of CBC.

9. Are there specialized spaces within the school, such as laboratories or project rooms, designed to support specific competency-based activities?

Yes [ ]

No [ ]

10. What are the school's plans to address any identified gaps in physical resources to better support CBC implementation in the future?

_____

11. Have you received any funds from the government to facilitate the construction of junior secondary school infrastructure?

Yes [ ]

No [ ]

12. What financial challenges are experienced by the school when improving school infrastructure to implement CBC in junior secondary schools?

_____

PART 4 Effects of instructional resources on implementation of CBC

13. How would you assess the sufficiency of instructional resources specifically designed for implementation of the CBC in your school?

    Very Inadequate [ ]

    Inadequate [ ]

    Neutral [ ]

    Adequate [ ]

    Very Adequate [ ]

14. Kindly indicate the challenges the school face in procuring and maintaining instructional materials for CBC implementation?

_____

Appendix B: Questionnaires for Teachers

This questionnaire aims at collecting data on "School-Based factors influencing the implementation of CBC in junior schools in North Imenti." The researcher reassures you that any information collected will be used for academic only and will not be disclosed anywhere else.

Please fill in the blank space against the appropriate response.

Part 1 DEMOGRAPHIC DATA (kindly tick where applicable)

1. Please specify your gender.

   Male [ ]

   Female [ ]

2. Kindly indicate your age bracket?

   30 years and below [ ]

   31 to 40 years [ ]

   41 to 50 years [ ]

   51 to 60 years [ ]

3. Specify your level of education?

   Diploma in ----------

   BED in……...

   MASTER of ----------

   Ph.D. in----------

Other qualification, _____

4. Indicate your teaching experience?

Five years and below [ ]

6-10 years [ ]

11- 15 years [ ]

Over 15 years [ ]

PART 2 Effects of Teacher Professional Development on implementation of CBC

5. Have you gone for CBC training? Yes [ ] No [ ]

   If yes, how many times? One [ ] two [ ] three [ ] more than three [ ]

6. Please indicate the main areas covered during CBC training, _____

7. Have you gone for ICT training? Yes [ ] No [ ]

8. Which areas should more training be done?

   Digital literacy [ ]

   Learner assessment [ ]

   Subject content [ ]

   Preparing lesson plans and schemes of work [ ]

9. Kindly indicate how well you have mastered the core competencies of CBC.

competencies	**Very good**	**Good**	**Still learning**	**Need training**
Digital literacy				
Problem-solving and critical				

thinking				
Creativity and imagination				
Self-efficacy				
citizenship				
communication				
Learning to learn				

10. How often do you apply these learning methodologies when teaching in class?

Learning methodologies	**Very often**	**Often**	**Sometimes**	**Rarely**
Project-based learning				
Group discussion				
flipped classroom,				
differentiated learning,				

Student-Centered approach				
Inquiry-Based Learning				
Cooperative Learning.				

PART 3 Influence of School physical resources in implementing Competency-based Curriculum.

11. By ticking where applicable, indicate the availability of infrastructure in your school.

School infrastructure	**Available and enough**	**Available but not enough**	**Not available at all**	
classrooms				
Libraries				
Open field				
Computer science laboratories				
Science laboratories				
Latrines				
Taps				

Workshop for pre-technical studies				
Small plots for agricultural practices				
Home science room				
Counselling room				
Languages rooms				
Music room				
Art room or studio				

12. To what degree do school infrastructure affect the implementation of CBC school?

	Very great	great	moderate	Low	Very low
Enough classrooms					
Availability of ICT					

infrastructure					
Availability of workshop					
Availability of science lab					
Availability of playground					
Availability of small plots for agricultural practices					

PART 4 Impacts of Instructional resources in implementing the CBC

13. How would you rate the adequacy of the instructional materials provided for implementing the Competency-Based Curriculum in your classroom?

Very adequate [ ]

Adequate [ ]

Neutral [ ]

Inadequate [ ]

Very inadequate [ ]

14. To what extent do learning materials affect the implementation of a CBC

	Very low	low	moderate	Great	Very great
Availability of course books					
Availability of teachers' guide					
Adequacy of teaching aids					
Availability of digital resources					

Appendix C: Interview Guide for Sub-County Education Directors

This is an interview guide for the Sub-County Education Directors on School-Based factors influencing the implementation of the CBC in Public junior schools in North Imenti Meru County.

1. Are professional development programs aligning with the goals and requirements of the CBC in junior schools?
2. How is budget allocation managed to make sure necessary physical resources are available in all schools for effective CBC implementation?
3. How would you assess the adequacy of school infrastructure and physical resources in junior schools?
4. How would you describe the availability and accessibility of CBC-specific instructional materials in junior schools within the sub-county?
5. Are there mechanisms to ensure the regular maintenance and upkeep of physical resources required for CBC?
6. Are there strategies to ensure equitable distribution of instructional materials among schools and classes?

Appendix D: Observation Checklist

Resources	Available	Not Available	Warn out	functional
Computer labs				
Science labs				
Laboratory equipment				
Open field				
Library				
Lesson plans				
Schemes of work				
Lesson notes				
Assessment tools				
Textbooks				
Projectors				
Tablets/ computers				

Appendix E:Introductory Letter

MERU UNIVERSITY
OF SCIENCE & TECHNOLOGY

P.O Box, 972-60200 Meru-Kenya. **Phone:** +254 712524293, 254 799529958, +254 799529959
Email: sed@must.ac.ke **Website:** www.must.ac.ke

SCHOOL OF EDUCATION

REF: MU/53/31(180) DATE: 25th March 2024

To Whom It May Concern

RE: Ms. CHRISTABEL WEGOKI REG NO: ED409//201246/20

Christabel Wegoki. Registration Number: ED409//201246/20. is officially enrolled as a student at Meru University of Science and Technology. She is currently pursuing a Master's degree in Education with a specialization in Leadership and Management. As part of the program. She is required to engage in field research.

Any support extended to her during this endeavor would be greatly valued and appreciated.

Thank you

Nyougo Omae, Ph.D
DEAN, SCHOOL OF EDUCATION

MUST is ISO 9001:2015 and ISO/IEC 27001:2013 CERTIFIED

Appendix F:NACOSTI Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **659309**

Date of Issue: **13/April/2024**

RESEARCH LICENSE

This is to Certify that Ms.. CHRISTABEL WEGOKI IRERI of Meru University of Science and Technology, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Meru on the topic: SCHOOL-BASED FACTORS INFLUENCING IMPLEMENTATION OF COMPETENCY - BASED CURRICULUM IN PUBLIC JUNIOR SCHOOLS IN NORTH IMENTI MERU COUNTY.. for the period ending : 13/April/2025.

License No: **NACOSTI/P/24/34382**

659309

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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See overleaf for conditions

Appendix G:North Imenti Education Office Permit

REPUBLIC OF KENYA
MINISTRY OF EDUCATION

State Department of Early learning and Basic Education

Email.cdemerucounty@gmail.com
Telegrams: "ELIMU" Meru
When Replying please quote
MERU

County Director of Education
Meru County
P.O. BOX 61

Ref: MRU/C/EDU/11/1/305

8th May, 2024

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION – MS CHRISTABEL WEGOKI IRERI

Reference is made to letter Ref.NO.NACOSTI/P/24/34382 dated 13th April, 2024.

Authority is hereby granted to **Ms Christabel Wegoki Ireri to** carry out research on the topic: **"SCHOOL-BASED FACTORS INFLUENCING IMPLEMENTATION OF COMPETENCY – BASED CURRICULUM IN PUBLIC JUNIOR SCHOOLS IN IMENTI NORTH SUBCOUNTY, MERU COUNTY, KENYA,** for the period ending 13th April, 2025.

Kindly accord her the necessary assistance.

FOR: COUNTY DIRECTOR OF EDUCATION
MERU COUNTY
P.O. BOX 61- 60200
Tel: 064-32372 MERU

FRIDAH KAGWIRIA
For: County Director of Education
MERU COUNTY

Appendix H: Guidelines for Implementation of Junior Schools

CHAPTER SIX

6.0 PHYSICAL INFRASTRUCTURE OF JUNIOR SECONDARY SCHOOL

6.1 Overview of Infrastructure of JSS

Physical infrastructure in a school include but are not limited to land, water storage and supply facilities, classrooms, laboratories, latrines and toilets. In order to ensure effective learning, infrastructure should be responsive to the changing needs of educational delivery; and at a minimum, provide a comfortable, safe, secure, accessible, well illuminated, well ventilated; and, aesthetically pleasing physical environment. This encourages learning as well as caters for learners' mental and physical well-being.

6.2 Basic Junior Secondary School Infrastructure

ALL JSSs SHALL establish the following minimum infrastructure in the long run:

(i) Standard science and well-furnished laboratories with basic laboratory apparatus, equipment and specimens relevant to integrated science.

(ii) Workshop for Pre-technical Studies with relevant working tools as well as safety equipment and materials.

(iii) Fields, pitches, open spaces and other relevant facilities and equipment for athletics, games, physical fitness and health.

(iv) Small plots or spaces for innovative agricultural practices and assorted farm tools and equipment.

(v) Computer science laboratory with adequate computer sets installed with basic programmes, database package, a printer and projector.

(vi) Counselling room or space for psycho-social support and other learner support programmes.

(vii) Library with relevant (digital as well as physical) learning resources.

(viii) Home Science room with provision for laundry, cooking and sewing areas/space as well as other relevant facilities, safety equipment and materials.

(ix) Languages room equipped with relevant learning materials, including audio-visual facilities.

(x) An Art room or studio equipped with working benches, drawing easels, clamps and drills and any other relevant equipment, tools and materials.

(xi) Music room with relevant facilities, musical instruments and learning materials.

6.3 Infrastructure Standards

All JSSs SHALL implement the infrastructure standards prescribed by the Cabinet Secretary responsible for Education as outlined below:

(i) The site layout SHALL be determined by site specific conditions such as size, topography drainage channels and direction of the prevailing winds, available services and utilities as per Physical and **Land Use Planning Act, (2019).**

(ii) ALL new JSSs SHALL develop a site plan, in consultation with relevant service providers.

(iii) All JSSs SHALL ensure that a signpost is installed at strategic exterior and interior entrance spots, indicating the institutions name, contact details and, GPS coordinates, as per **KEBS/KS ISO/ IECTR 1976:2007.**

(iv) All JSSs SHALL ensure that the compound is well graded, with provision for natural drains as per **Safety Standards Manual for Schools in Kenya (2008).**

(v) All JSSs SHALL ensure that the landscape is configured to ease access for persons with special needs and disabilities.

(vi) All JSSs SHALL collaborate with the Department of Forestry to green the environment and plant trees. All trees SHALL be labelled by their botanical and local names.

(vii) All JSSs SHALL provide administration offices, commensurate with the prevailing curriculum needs.

(viii) All JSSs SHALL ensure that designs and specifications of structures conform to the **Registration Guidelines for Basic Education Institutions 2021 (Sections 12.2)** pages 12-13 and the **School Infrastructure Management Unit (SIMU)** at the **MoE (see Annexes 3A and B).**

(ix) All JSSs SHALL ensure all physical facilities are safe for all learners and disability friendly with auxiliary staff arrangements for **PWDs.**

(x) MoE SHALL facilitate establishment and acquisition of affordable physical and mobile labs as per the Standards for laboratories, Equipment and Materials in STEM schools and other **Basic Education Institutions (2021).**

(xi) MoE SHALL facilitate establishment of Home – Science rooms, Computer labs, as well as special rooms for implementation of practical subjects such as technology and visual performing arts.

(xii) Agriculture demonstration plots of JSSs SHALL be in conformance with to the **Registration Guidelines for Basic Education Institutions (2021).**

(xiii) MoE and the JSS leadership SHALL provide adequate, clean and safe water at 5 litres per day per learner in day and 20 litres per learner in boarding JSSs).

(xiv) All JSSs SHALL ensure water sources are sited away from human activities and waste disposal sites. All water intakes SHALL be well protected as per the **WHO Water Sanitation and Hygiene Standards for Schools in Low –Cost Settings (2009).**

(xv) The JSS leadership SHALL seek professional advice on the siting, design and installation of concrete and masonry water tanks.

(xvi) All JSSs SHALL ensure safe water storage, in accordance with the Standards and G**uidelines for WASH Infrastructure in Pre-primary and Primary Schools in Kenya (2018).**

(xvii) The JSS leadership SHALL collaborate with the Department of Water to ensure that water is sampled and tested at least once annually in a certified water quality testing laboratory for appropriate intervention.

(xviii) The JSS leadership SHALL ensure that water tanks are emptied and cleaned once annually with approved cleansing materials.

(xix) All JSSs SHALL provide adequate sanitation facilities at the ratio of 25:1 for girls; 30:1 for the

(xxix) All JSSs SHALL provide a playground and those without adequate grounds SHALL lease a playground within a radius of 200 metres from the school, in accordance with the **Registration Guidelines for Basic Institutions (2021).**

(xxx) JSSs SHALL be guided by the Framework for Infrastructure and Resource Sharing in sharing of playgrounds with the school community. This SHALL be coordinated by the MoE through the CDE (see annexes 1A &B).

(xxxi) The JSS leadership SHALL establish appropriate measures for emergency preparedness as per the **National Building Regulations (2015).**

(xxxii) The JSS leadership SHALL take appropriate measures to sensitize the learners, staff and non-teaching staff on disaster risk management, as per the **National Building Regulations (2015).**

(xxxiii) The JSS leadership SHALL organize sensitization fora on fire emergency response, identify fire assembly points, and ensure that learners and staff undertake periodic fire drills.

boys. Separate sanitation SHOULD be provided for the staff as well as learners with special needs and disabilities, as stipulated in the **Registration Guidelines for Basic Education Institutions 2021 (sections 12.3) pages 24-26.**

(xx) All JSSs SHALL ensure pit latrines are located away from a bore hole, well or water supply point and general wind direction. This SHOULD measure not less than 10ft deep, 3 ft across and not more than 25 cm diameter for the hole. In addition, pit latrines SHALL be regularly disinfected in accordance with the Standards and Guidelines for **WASH Infrastructure in Pre-primary and Primary Schools in Kenya (2018).**

(xxi) ALL SNE JSSs SHALL ensure provision of adequate sanitation, adapted toilets and walk ways for the learners and stakeholders as per the **PWD Act (2003).**

(xxii) All JSSs SHALL provide a variety of hand washing devices (including sinks with taps, buckets with taps, and basins with a pour-cup).

(xxiii) The JSS leadership SHALL make the best use of the available out door space to facilitate sports and leisure activities for all learners (including those with special needs and disabilities). This SHOULD take into consideration the acceptable safety standards.

(xxiv) The JSS leadership SHALL ensure electrical installations are checked regularly for safety by a qualified licensed electrician.

(xxv) The JSS leadership SHALL ensure proper waste management systems and mechanisms are established and maintained.

(xxvi) All JSSs SHOULD ensure that potential waste streams are assessed and an appropriate disposal route established.

(xxvii) ALL JSSs SHALL establish a proper waste management mechanism.

(xxviii) The JSS leadership SHALL ensure adherence to the **Safety Standards Manual for Schools in Kenya (2008)** in all matters pertaining to school transport, while considering learners with special needs and disabilities.

Appendix I: Publication

INTERNATIONAL JOURNAL OF RESEARCH AND INNOVATION IN SOCIAL SCIENCE (IJRISS)
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Effects of Teacher Professional Development on Implementation of Competency-Based Curriculum in Junior Schools in North Imenti Sub-County, Meru County

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ABSTRACT

Kenya is experiencing a gradual transition from a content-focused education (8-4-4) to a competency-based curriculum (2-6-3-3-3). However, teachers have insufficient pedagogical preparedness and lack comprehensive content knowledge for a competency-based curriculum. This research examined the effects of teacher professional development on implementing the competency-based Curriculum in junior secondary schools in North Imenti, Meru County. The study's objectives were to evaluate how enhancements in professional development, particularly in pedagogical skills, could facilitate the successful implementation of CBC. The literature review synthesizes existing studies on competency-based education, focusing on aligning teacher professional development with curriculum demands. The study used a descriptive survey design. The target population comprised 26 junior schools in North Imenti Sub-County, Meru County. The respondents were two sub-county education directors, 26 head teachers, and 70 junior school teachers. Through stratified sampling, the sample size was 31 Respondents, that is, eight head teachers, 21 teachers, and two sub-county directors of education. The data was collected using Questionnaires, interview schedules, and observation checklists. The findings indicated that most junior school teachers (95%) had undergone professional development in implementing a competency-based curriculum. The study concluded that Teacher Professional Development is essential for equipping teachers with the necessary skills and knowledge for the effective implementation of a Competency-Based Curriculum. The study recommended the development of continuous, competency-focused professional development initiatives that address these critical areas of instructional methodologies.

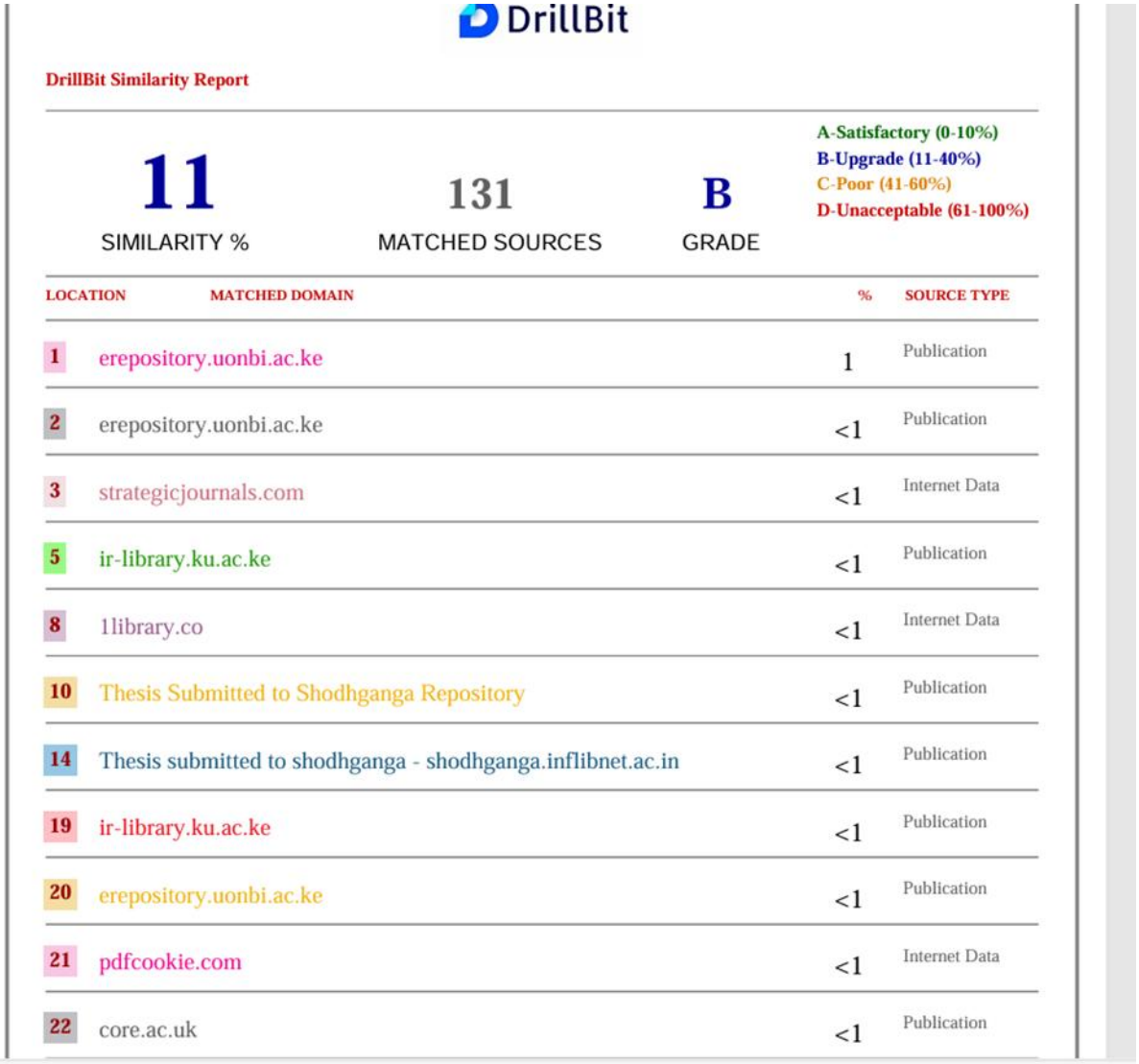
Keywords: Competency-based Curriculum, teachers' professional development, pedagogical skills.

INTRODUCTION

The implementation of the Competency-Based Curriculum in Kenya is occurring in stages, beginning with pre-primary and primary schools, which started in January 2018. Wambua,(2019) suggests that during the implementation of a curriculum, frequent evaluations should be conducted by collecting data to identify any challenges encountered and adjust the implementation strategies accordingly. The recorded experiences from other countries that have previously implemented a Competency-Based Curriculum reveal that the initial stages of CBC implementation are often met with numerous challenges.

Teachers are responsible for executing the Curriculum, so they play a significant role in enhancing and transforming students. Consequently, the quality of education depends heavily on the quality of the teacher. Thus, teachers must be highly skilled in applying teaching strategies that are crucial for effective student learning. For competency-based Curriculum to succeed, instructors must be sufficiently knowledgeable to engage their students in the learning process, as teachers are key players in curriculum implementation,(Sitienei, 2020). Since Teachers are responsible for implementing the Curriculum, they must possess sufficient expertise to execute it effectively. Providing teachers with professional development is essential for equipping them with the skills and knowledge needed to manage a new curriculum.

Appendix J: Plagiarism Report



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