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Assessing Teaching-Learning and Infrastructure Resources in The Implementation of Competency-Based Education (CBE) in Junior Schools Kenya

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ABSTRACT

The Competency-Based Curriculum (CBC) in Kenya was unveiled in 2017 with the aim of equipping learners with real-world skills and fueling their talents and gifts. However, the implementation of the new model faces critical challenges due to the lack of adequate resources. This study examined the availability and adequacy of resources essential for the effective implementation of the Competency-Based Curriculum (CBC) in Kenya's junior schools in Matungulu Sub-County, Machakos County. The study was guided by four primary objectives: to assess the availability of teaching and learning (T/L) resources required for the implementation of CBC; to establish the state of school infrastructure and its support for the implementation of CBC; Resource Based View (RBV) Theory and Systems theory guided the study. A descriptive cross-sectional research design was utilized, incorporating both quantitative and qualitative approaches. A sample of 30 junior schools was picked to represent 72 junior schools in Matungulu Sub-County. From each of the 30 schools, three participants, including the school administrator and two teachers, were selected to participate in the study. The participants were selected using purposive sampling to ensure the recruitment of individuals with the necessary knowledge and experiences to meet the study's objectives. Quantitative data was collected through structured questionnaires distributed to teachers and administrators, focusing on the availability of teaching materials, infrastructure, and professional development. This data was analyzed using descriptive statistics. Qualitative data was gathered through semi-structured

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interviews with local education officials to explore challenges influencing CBC implementation. The data was analyzed thematically to identify common challenges and contextual factors affecting CBC implementation. Triangulation was employed to combine findings from both data sets, resulting in a more complete picture of resource availability and implementation challenges. The findings showed that the availability of T/L materials in junior schools in Matungulu Sub-County is at a moderate level, with a mean score of 2.72. The presence of digital resources was rated low, with a mean score of 2.43, while the availability of other key facilities, such as classrooms, workshops, laboratories, libraries, and ICT resources, was perceived as limited (mean = 2.52). These findings provide valuable insights that can help various stakeholders including school administrators, teachers, and parents to better understand how teaching –learning impacts the implementation Competency Based Education

KEYWORDS: Teaching-Learning Resources, Pysical Infrustructurer, Copmpetency Based Education (CBE)

1.1 Background of the Study

A competency-based Curriculum (CBC) can simply be defined as what learners ought to do rather than what they should know. The skills acquired by the learners are adaptive and capable of solving day-to-day life challenges (UNESCO 2015). In the CBC system, learners are taught how to do and not what to do. Unlike the traditional system, where exams are compulsory in measuring a learner's competency, the competency level of a learner is not necessarily measured by exams but rather by several other methods (Amutabi, 2019).

The CBC system has been implemented in various countries around the world, including New Zealand, the United States, Finland, France, Canada, Uganda, Rwanda, South Africa, and Zimbabwe (Ogembo, 2024). In the United States (US), the system has existed since around 1980. Increased youth unemployment witnessed during the economic recession necessitated the implementation of CBC. The USA CBC system is based on mastery of current concepts and skills. The support given to the learners is usually tailored to meet each learner's individual needs (Muasya and Waweru, 2019).

Finland is recognized as one of the best countries in terms of education system. The country has severally emerged among the best according to appraisals done by the Organization for Economic Co-operation and Development (OECD). The Finnish curriculum, which is popular for its progressive approach, prioritizes competency-based learning for all pedagogical activities. To ensure the effective implementation of CBC, teachers in Finland are acquainted with a wide range of skills, including psychology, curricular theory, IT skills, and research skills. This ensures that educators are prepared with the required knowledge and expertise necessary to

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execute the competence-based curriculum and realize its full potential (9 Karani, Miriam and Mironga, 2021).

Mexico implemented the CBC system approach in 2009. The approach encompassed reforms in the basic education and national policies. Such reforms were geared towards attaining knowledge, skills, values and attitudes to be applied in day-to-day activities (Kopelman, Gardberg and Brandwein 2011).

In Africa, several countries have embraced the CBC system, including Morocco Rwanda, Uganda, Tanzania, Zimbabwe, Zambia, Mozambique, and South Africa (Ruth and Radamas 2019). Tanzania introduced the system in 2005. The approach was necessitated by the need to provide learners with skills necessary for the job market (Kitila, 2012). In 2009, Morocco adopted CBC approach in their schools. The approach was geared towards learners achieving skills, which they can utilize in their day-to-day endeavors. However, unlike developed nations, most countries in Africa lack adequate educational resources that are necessary for the effective delivery of CBC. In their study, Murareneza, Mtshali and Mukamana (2019) found that the majority of schools in the continent do not have adequate materials and resources required to implement the curriculum successfully.

In Kenya, the CBC framework was unveiled in 2017 replacing the 8-4-4 system, which was in place since 1985. Before the 8-4-4 system, Kenya had the 7-6-3 system. The 7-6-3 system, was exam centric. This was also the case with the 8-4-4 system whereby the Kenya Certificate of Primary Education (KCPE) examinations were the main determining factor on which secondary school a learner was to be admitted to (KICD, 2017).

The 8-4-4 system was aimed at fulfilling three goals. Firstly, it aimed at promoting national growth in both social, economic and technical aspects. Secondly, the 8-4-4 system was to encourage human growth and fuel learners' talents and gifts. Lastly, the system was aimed at promoting the values and morals of the society and nation at large. One of the greatest downsides of the curriculum is that it was highly theoretical and focused on academic achievement rather than prioritizing learners' holistic development. Its emphasis on good grades induced students to regurgitate learning materials instead of seeking to acquire knowledge (Wanjohi, 2018).

As a result, the Kenya Institute of Curriculum Development (KICD) designed, developed, and launched the CBC system to fulfill the goals not met by the previous 8-4-4 system. The CBC system entails a 2-6-3-3-3, which includes 2 years in pre-primary, 6 years in primary, 3 years in junior school, 3 years in senior school and 3 years in university or other tertiary education Institutions (KICD, 2017). The system focuses on seven core- competencies, namely; creativity, critical thinking and problem-solving, communication and collaboration, citizenship, learning to

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learn, digital literacy, and self-efficacy, with the goal of being able to solve problems in the 21st century.

Some of the subjects taught at junior School level include Kiswahili, English, mathematics, religious studies, sports, integrated science and physical education. By the completion of junior level, the learners are assumed to have realized their abilities and are therefore given the privilege to choose the subjects, which are in line with their careers. These are the subjects they ought to specialize in the senior school level. Learners are not assessed using national examinations only, but based on cumulative formative assessments that are done continuously at different levels (Kithinji, 2023). According to the Ministry of Education's guidelines for the implementation of Junior School Education (2023), junior schools (JS) represents a unique educational stage with a comprehensive curriculum designed to prepare students for Senior School Education pathways. At this level, students are expected to discover their potential and begin focusing on their future careers.

Since the implementation of the CBC in 2017, the first cohort of learners joined junior school, grade 7 in 2023. They are currently in grade 9 (2025), which is the final level of the junior school. Another milestone made by the government is the training of over 10,000 primary school teachers with the aim of offering them the skills needed in implementing the CBC and assisting learners transition successfully to junior school level (Kithinji, 2023).

This education system has however faced many challenges; with the availability of resource being one of the main challenges. According to Owoko (2009), resources encompass human resources such as teachers and support staff, instructional materials and infrastructure such as classrooms, laboratories and libraries. Availability of adequate resources leads to increased productivity, high academic performance, improved access to education, fruitful learning experience and increased motivation (Adeogun, 2001).

Specifically, the junior school has faced challenges of inadequate teachers and learning materials, which have been difficult to access. The instructional materials have not only been inadequate but unavailable at some point due to delays in publication. The teachers-to-pupil ratio in junior school has also been high. This has been overwhelming to the teachers, as they are required to cover substantial work. The junior pupils have also faced minimal parental support as the parents rarely understand the CBC system. Most parents believed that the teachers should solely help the pupils with their homework, as that is their responsibility and not the parents. Additionally, most junior schoolteachers lack the ICT skills that are integrated within the CBC framework. This poses difficulties in executing the curriculum (Kithinji, 2023).

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Cohen, McCabe, Michelli, and Pickeral (2009) concur that there is a need for trained teachers to deliver on the CBC content. The training of CBC teachers employs a learner-centered approach. Learner centered approach entails active participation of learners and this requires a variety of instructional materials. Teacher training is diverse and includes university/college education, in-service/refresher training and informal training, which is acquired on the job. This enables the teachers to align with emerging issues and new research and development, consistent with the CBC system.

Instructional materials are key in implementing CBC. They help capture learners' attention and discover their abilities in different areas. Additionally, using different instructional materials benefits learners by avoiding recitation and rote learning. This facilitates different learning styles, stimulates learners' curiosity and ability to visualize, increases student engagement rate and allows learners to undertake their individual studies (Mwita and Onyango, 2022). The lack of instructional materials makes learning difficult, as teachers cannot vividly communicate with the learners.

Ngeno, Mweru and Mwoma's (2021) study found a positive relationship between the availability of infrastructure and the implementation of CBC. Learners who attended schools with good physical infrastructure were more motivated and performed well academically than those with a physical infrastructure challenge. There was also a need for workshops, ICT, home science and music classrooms to support practical lessons. The classrooms should not be overcrowded but spacious enough to accommodate the learners. Further, there was a need to have an uninterrupted internet that could support Information and Communication Technology (ICT) classes effectively. Chaudhary (2015) further emphasized the importance of physical infrastructure in curriculum implementation and pointed out that the central government should provide such amenities.

Learner characterizes successful implementation of CBC focused learning experience, adequate resources capable of supporting digital learning, involvement of both learners and community in the learning process and use of collaborative models in the process of learning. The obstacle of resource availability has always been present in the implementation of the new curriculum. Kavindi (2014) study pointed out that Tanzania initially faced challenges of inadequate classrooms, inadequate learning materials and teacher shortage in their implementation of the CBC.

The Competency-Based Curriculum (CBC) represents a significant shift in educational strategies. It focuses on students' acquisition of skills, learner-centred approaches and practical application of knowledge and competencies rather than traditional rote learning. However, it requires a comprehensive overhaul of traditional teaching resources and methodologies.

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As the Kenyan education system transitions to this model, assessing the availability of resources necessary for effective implementation is crucial, particularly at the junior school level. Matungulu Sub County, like many other regions, faces unique challenges that may impact the smooth execution of this curriculum.

1.3 Statement of the Problem

CBC has the potential to bring about innovation and equip learners with the necessary skills for employment opportunities. It is also an avenue of reducing unhealthy competition as it focuses on allowing learners to choose the areas they are good at. However, despite having positive outcomes on learners, successful implementation of the CBC in junior schools has had quite a number of challenges. One of the main hindrances pertains to inadequate resources, including instructional materials, digital tools, trained personnel, and infrastructural support. In Matungulu Sub County, a study by Mutiso (2020) indicates that junior schools in the region encounter resource-related challenges, including insufficient funding, inadequate infrastructure, and a lack of sufficient teaching and learning materials. This justifies the need to carry out additional research to determine how these challenges hinder the effectiveness of the CBC system in the area.

Tumuheise et al. (2023) describe resources as essential educational inputs required to make the learning process more practical and comprehensible to learners, thus facilitating the implementation of CBC. Mulangi (2024) highlighted inadequate teaching and learning resources; shortage of infrastructure, equipment, and technology; and insufficient teaching staff as some of the key factors that have led to the ineffective implementation of CBC in Kenya and detrimentally impacted teaching and learning.

A study by Ruth and Radamas (2019) noted that the implementation of CBC in African countries was mainly done directly or supported by non-governmental organizations in Western countries. The study further noted that African countries face challenges in terms of human and resource availability required to run the CBC system.

The report by the presidential working party on education reform (2023) highlighted general challenges facing CBC implementation in Kenya. Most of the participants featured in the report cited a lack of sufficient funds for the acquisition of approved and high-quality textbooks, connection of schools to the internet and ICT tools, provision of professional development training for teachers, and the development of infrastructures such as laboratories, workshops, and libraries. Other studies (Kilile, Mwalw'a & Nduku, 2019; Ngeno et al., 2023) specifically focused on different regions in Kenya and pointed to the need for resource availability to ensure the success of CBC in the country. While these studies addressed challenges facing CBC

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implementation, with some focusing on resource availability, there remains a gap in research specifically addressing the impact of resource availability on CBC implementation in Matungulu Sub County (Mutiso, 2020).

Previous studies have predominantly focused on the overall challenges of CBC implementation, lacking specific attention to how resource constraints affect its success (Cheruiyot, 2024; Gichurur, 2024; Isaboke, Wambiri & Mweru, 2021). Therefore, this research aims to evaluate the availability of these critical resources and provide insights into potential gaps and solutions.

1.4 Purpose of the Study

The purpose of this study is to evaluate the availability of teaching-earning and physical Infrustracture resources for implementing the competency-based curriculum in Junior Schools (JS) in Matungulu Sub County.

1.5 Specific Objectives

The following specific objectives guided the study:

i. To assess the current availability of teaching and learning materials required for the implementation of CBC in JS in Matungulu Sub County.
ii. To establish the state of school infrastructure and its support for the implementation of the CBC.

1.6 Research Questions

i. What resources are currently available for the implementation of the CBC in JS in Matungulu Sub County?
ii. How does the existing infrastructure support the implementation of the CBC?

1.7 Limitations of the Study

Several factors influence the implementation of CBC in the junior school. However, this study focused on resource availability in CBC implementation. The study assessed the current availability of resources, the supportive nature of the existing infrastructure, teachers' preparedness, and the challenges involved in accessing resources for CBC implementation. The study was limited to a sample of 30 junior schools drawn from Matungulu Sub County, and the target respondents encompassed teachers handling junior school learners, the heads of institutions and the local education officials.

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1.8 Significance of the study

The study helps to expand the current research on the availability of resources required for the implementation of CBC in junior schools (JS). In particular, the research provides valuable insights that can help various stakeholders including school administrators, teachers, and parents to better understand how the availability of resources impacts the implementation of the new curriculum. This understanding can empower school heads and teachers to advocate for the resources they need to effectively implement CBC. It can also encourage school administrators to work together with parents and other relevant stakeholders to identify and secure additional resources. Further, the study can provide useful information to improve parents' understanding of the novel curriculum and enhance their involvement in CBC activities.

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter covers the literature review of the study subject. It encompasses theories that underpin this study, the general literature surrounding the influence of resources on the implementation of competency-based curriculum and the conceptual framework that depicts the relationship between independent, dependent and moderating variables. Additionally, it covers the empirical reviews of other scholars who undertook similar studies.

2.2. Empirical Literature Review

2.2.1 The impact of learning and teaching resources on the implementation of competency-based curriculum

Competence-based education emphasizes the practical application of knowledge rather than mere knowledge acquisition. The competency-based approach to teaching is a student-centered instruction that aims to break down the barrier between school or the classroom and daily life. Enabling resources must be sufficient for an educational policy to be implemented successfully. This empirical evaluation looks at recent studies on the availability of learning and teaching resources and the implementation of the CBC framework in Junior Schools in Matungulu sub-county, Kenya

Numerous studies have evaluated how the availability and use of learning and teaching resources impact the implementation of CBC. In their study, Mwita and Onyango (2022) employed a descriptive survey methodology to explore the impact of the availability and utilization of teaching resources on the delivery of CBC by educators in public primary schools in Migori County. A sample size of 732 was used, comprising 180 school administrators, 8 quality

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assurance officers, and 544 teachers. Questionnaires were used to gather data, which was analyzed using descriptive statistics. The findings revealed that most schools in the county have insufficient teaching and learning resources which negatively impacts their ability to undertake the CBC implementation activities effectively.

In another study, Tumuheise et al. (2023) examined the aspects impacting the delivery of CBC in secondary schools in Kabale municipality, Kabale district. A qualitative approach was used to obtain and evaluate non-numerical data that was needed to achieve the study objectives. Both interviews and focus group discussions were used to collect data from a sample of 126 participants, including 100 students, 20 educators, 5 school administrators, and one local education officer. The gathered data was analyzed using the thematic analysis technique. The findings indicated that most schools lack the necessary learning and teaching resources required to implement CBC effectively, which negatively impacts the quality of education. A major limitation of the study is that the purposive sampling method was used to get the study subjects. As such, the applied sample may not be representative of the target population, thus limiting the generalizability of its findings.

Isaboke, Wambiri and Mweru (2021) employed a descriptive research methodology to evaluate the primary obstacles impeding the effective implementation of CBC in public schools in Nairobi City County. A Questionnaire was used to gathered data from a sample size of 135, comprising 45 school heads and 90 educators. The thematic analysis technique was used to analyze the collected data. The results indicated that the delivery of CBC is greatly hindered by lack of adequate school infrastructure, learning facilities, and instructional materials. Similar findings were obtained by Gichurur (2024) who utilized a cross-sectional survey to gather data from 940 JS teachers in Nyeri County on obstacles experienced by educators in implementing CBC. The results showed that most schools encounter shortages of CBC-aligned textbooks and digital resources, lowering educational quality. This resource availability gap is worsened by logistical challenges with distribution and the increased cost of CBC materials compared to the old curriculum.

Mulangi (2024) also adopted a descriptive research methodology to evaluate the financial constraints that impact the delivery of CBC among public primary schools in Taita Taveta County. A sample of 95 study subjects was selected from a target population of 1764 school heads, deputy school heads, and BOM Chairpersons. Questionnaires were used to gather data from the chosen respondents which was analyzed using descriptive statistics. The findings revealed that inadequate financial resources were a major concern in most schools, which affect not only resource availability but also the overall quality of CBC implementation.

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As the reviewed studies highlight, most Kenyan schools face significant challenges in effectively implementing the Competency-Based Curriculum (CBC) due to limited learning and teaching resources and physical infrastructure or facilities. This resource shortage impedes the practical implementation of CBC operations and limits students' engagement and access to quality education (Wanjiku, 2022). As Muasya and Waweru (2019 and Ogembo (2024) indicate, the effectiveness of this new curriculum is dependent on having access to adequate teaching materials, technological resources, and favorable learning environments.

2.2.2 State of School Infrastructure

The "state of school infrastructure" in this study refers to the physical and environmental qualities of school buildings, including classrooms, labs, libraries, and sanitation facilities, as well as how they assist the implementation of CBC. In his study on the development of school infrastructure, Kapur (2019) stated that the term "infrastructure" refers to a wide variety of aspects. These include computer centres, playgrounds, equipment, library resources, laboratories, technology, classrooms, machinery, and tools.

A wide range of research has assessed the availability and influence of school infrastructure in the execution of CBC. Ngeno, Mweru and Mwoma (2021) adopted a descriptive survey research methodology to examine the correlation between the availability of physical infrastructure and the delivery of CBC in Kericho County. Questionnaires were used to gather data from a sample of 119, consisting of 6 sub county education officials, 52 school heads, and 61 teachers. The collected data was analyzed using descriptive statistics. The findings indicated that schools' infrastructures such as classrooms, libraries, laboratories, workshops, sports fields, and ICT rooms are essential in the implementation of CBC. The participants indicated that learners who attend schools with good physical infrastructure are likely to perform better in the new curriculum than those in schools with poor infrastructure.

Adan and Kenei (2023) employed descriptive and phenomenological research methodologies to evaluate how physical facilities influences the execution of CBC in public junior schools in Banisa Sub-County, Mandera County. Questionnaires were utilized to gather quantitative information from 84 teachers, whereas in-person interviews were employed to collect qualitative data from 9 school heads and 2 local education officers. Analysis of the gathered data showed that the execution of CBC in public junior schools in Kenya faces significant hurdles, principally due to a lack of adequate physical infrastructure. The lack of comfortable classrooms, safe playgrounds, well-stocked resource centers, adequate sanitary facilities, and technology-enabled learning spaces has impeded effective CBC delivery and resulted in decreased student skills in crucial subjects.

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Cheruiyot (2024) used a qualitative research design to assess the hindrances that junior schools in Kenya face in delivering CBC. The researcher visited junior schools to examine CBC implementation first-hand and conducted face-to-face interviews involving 47 head teachers and educators. Thematic content analysis was used to analyze the gathered data. The results showed that inadequate infrastructure in most schools across the country presents a major challenge to the effective rollout of CBC in junior schools. This limitation not only impedes the delivery of quality education, but also jeopardizes CBC's overall development goals.

Similar findings were obtained by Kuria (2022) who employed a descriptive survey design to examine the link between school preparedness and successful delivery of CBC. Questionnaires were used to gather data from a sample of 80 respondents, consisting of teachers, school heads, and sub-county directors of education from Nairobi City County. The gathered data was analyzed using descriptive statistics. The findings revealed that most schools in the city were not prepared for CBC implementation due to inadequate infrastructure which hinders the successful delivery of the new curriculum.

In their study, Obinga et al. (2017) adopted a correlation research design to determine the association between physical infrastructures and internal efficiency of public secondary schools in Tana River County. Questionnaires were used to collect data from a sample of 45, comprising 15 head teachers and 30 educators. In-person interviews were also conducted to gather in-depth data from one county director of education and 3 sub-country education officers. Quantitative data was analyzed using descriptive statistics while data from interviews was analyzed using the thematic analysis method. The findings indicated that physical resources have a positive correlation with the internal efficiency in public schools. This highlights the importance of equipping junior schools with adequate physical infrastructure in order to enhance the implementation of CBC.

2.3 Theoretical Framework

A theoretical framework provides a prism through which researchers can analyze events, generate hypotheses, and interpret results. It is essential to scholarly research because it sets the context for the study and gives a reason for the strategy and methods used (Creswell, 2018). The theoretical framework enables researchers to build on existing knowledge, uncover gaps, and situate their work within a larger academic discourse by anchoring the study in established theories (Grant & Osanloo, 2018). This therefore emphasizes the theoretical framework’s role in shaping research by guiding design, providing context, and structuring analysis, thereby contributing to the scholarly rigor of the study. This theoretical framework explores the relationship between resource availability and the implementation of CBC, drawing on contemporary scholarly sources and theoretical perspectives.

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2.3.1 Resource-Based View (RBV)

The theory was first put forward by Birger Wernerfelt in 1984 and later advanced by Jay Barney in 1991. According to the model, an organization attains success and a competitive edge by leveraging resources and capabilities that are difficult for rival companies to replicate. The model helps to understand how institutions attain and maintain competitive advantage by exploiting their major resources and capabilities (Barney, 1991). The theory has been widely applied in various sectors as an approach for determining the key resources institutions require to achieve their goals. In the education sector, adequate resources such as finances, human capital, physical infrastructure, and instructional materials are essential for achieving educational excellence and realizing the main goals of CBC.

As highlighted by Madhani (2017), the RBV model provides a framework to evaluate how an organization's vital resources and capabilities enable it to gain competitive advantage by enhancing its performance and success. Based on this model, schools with better access to resources such as instructional materials, digital tools, trained personnel, and infrastructural support can implement the CBC curriculum more effectively. These resources give learning institutions competitive advantage to carry out teaching and learning activities more effectively, leading to better implementation of the CBC curriculum. On the other hand, the lack of such resources negatively impacts the implementation of the new model. Therefore, the framework indicates that the more adequate the resources are, the better the schools can implement the CBC curriculum. In this study, the model will provide a framework for understanding how resource availability influences the implementation of CBC in junior schools in Matungulu sub-county.

The RBV model offers a number of advantages, including helping institutions to identify and harness their unique resources to achieve a competitive advantage. It also facilitates strategic decision-making by providing an understanding of the resources that are currently available (Adan & Kenei, 2023). For instance, gaining insights into the resources available to their schools can enable administrators to make more informed decisions about how to allocate the resources effectively. The greatest limitation of the model is that it presumes that institutions have access to diverse resources to build competitive advantages. However, in reality, some institutions might encounter resource limitations, which can impede the development of key infrastructure and hinder the implementation of programs such as CBC.

2.3.2 Systems Theory

Von Bertalanffy (1968) developed the systems theory, which focuses on comprehending complex events through the interrelationship of system components. The theory posits that every institution is a single, unified system consisting of multiple components or subsystems, which

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are all interrelated. Every component relies on the other parts, and all the components must work together for the system to function efficiently (Mwambi 2020). According to Abdullahi (2019), the main assumption of the systems model is that the study of any organization requires a close consideration of the subsystems of which it is made up. In the education sector, this idea helps to understand how numerous elements (such as resources, policies, and stakeholder interactions) affect the implementation process in educational settings.

In this study, this theory helps to understand how resources (such as instructional materials, learning facilities, digital tools, trained personnel, and infrastructural support) and procedures (such as teacher training and curriculum development) interact to influence the implementation outcomes (outputs) of the CBC system. It provides a framework for evaluating how various components of educational settings interact and influence each other. The model will aid in identifying systemic challenges that may impede the effective implementation of CBC in junior schools (Abdullahi 2019). It will help to evaluate how the delivery of CBC may be greatly hindered by lack of adequate school infrastructure, learning facilities, and instructional materials.

The main strength of the systems theory is that it provides a holistic view of an organization by considering all of its subsystems and their interactions. As Mwambi (2020) indicates, this can help to uncover issues that might otherwise go unnoticed. The holistic view also contributes to a better understanding of the relationship between various elements of the institution and how they interact with one another. In the current study, the theory can help to understand how different types of resources interact to influence the implementation outcomes of the CBC system. The main drawback of the system is that while it helps to spot issues within a system, it may not provide a clear pathway for tackling those issues effectively.

2.4 Conceptual Framework

The conceptual framework model for this study is a representation of the relationships between the study variables shown in Figure 2.4 below. As shown in the framework, independent variables for the study are various resources required to effectively implement CBC, including infrastructure, teaching and learning materials, and a suitably skilled and adequate workforce. These resources have a direct and considerable impact on the successful implementation of the new curriculum, which is the dependent variable.

As the system theory indicates, a learning institution is a single, unified system consisting of multiple components or subsystems, which are all interrelated. These components must work together for the institution to function efficiently (Mwambi 2020). One of the vital components of junior schools is the availability of resources, which interrelates with other components such

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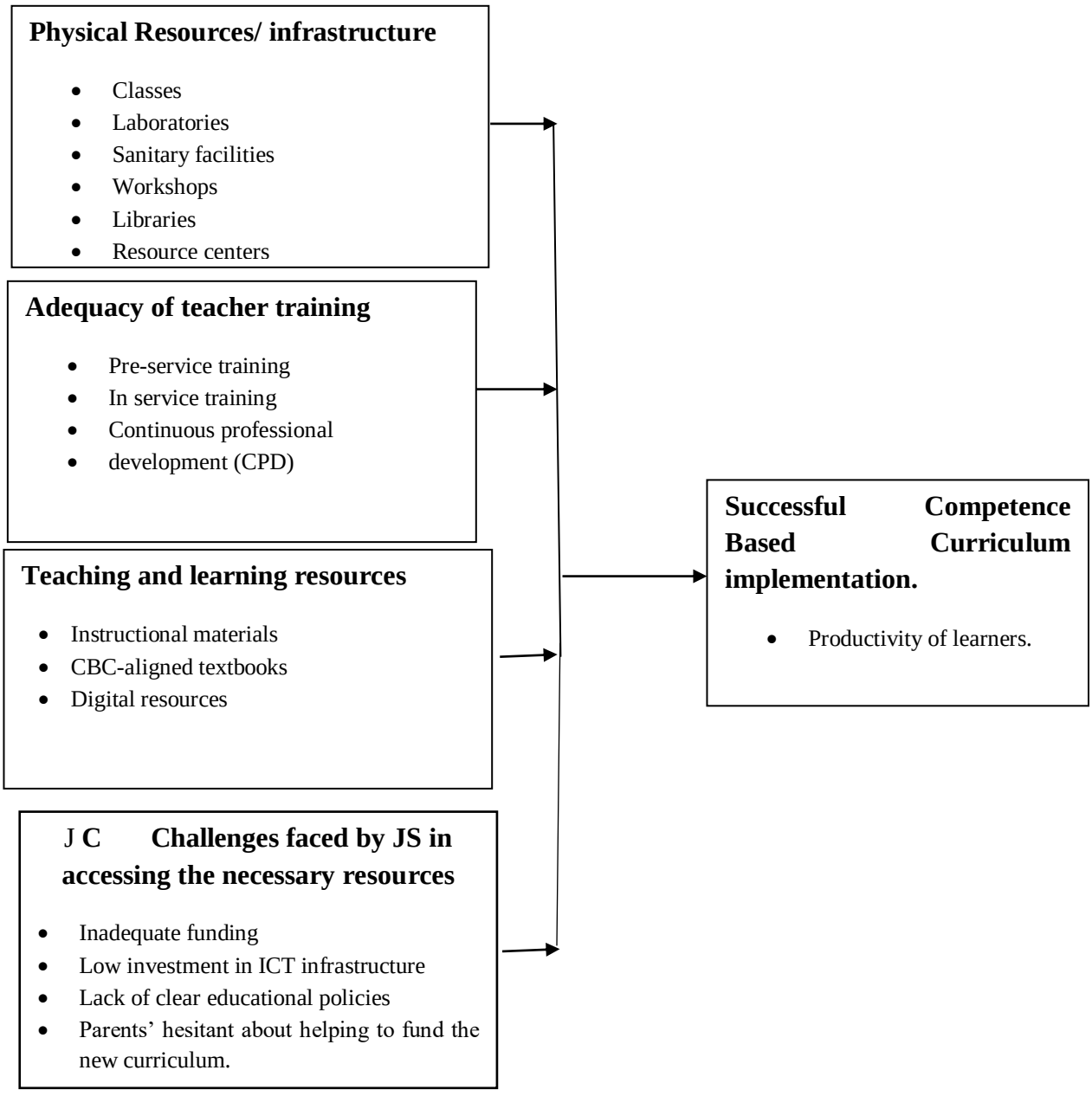
as students, teachers, and the delivery of quality education. This study aims to explore how this key component influences the implementation of CBC in Matungulu Sub County.

FIGURE 2.7 Conceptual Framework.



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RESEARCH METHODOLOGY

3.1 Introduction

The purpose of this study was to investigate the availability of educational resources and how the Competency-Based Curriculum (CBC) is being implemented in junior schools in Matungulu Sub County. The study was motivated by the desire to better understand how resource availability affects the efficacy of CBC implementation and to identify potential gaps or obstacles that educators may experience in this setting. The chapter presents the study's research methodology. This encompasses the research design, target population, sample size, sampling framework, data collection instruments and data processing analysis.

3.2. Research Design

The study adopted a descriptive cross-sectional research design, incorporating both quantitative and qualitative approaches to provide a comprehensive analysis of the phenomenon under investigation. The design refers to a type of research methodology in which the researcher gathers data from many participants at a single point in time (Etikan et al., 2016). One of the reasons the design was considered suitable for this research is that it is inexpensive and less time-consuming as it allows the researcher to gather data at a single point in time (Kühn et al., 2022). The design was also considered appropriate for the study because it allows the researcher to gather data from a large pool of subjects, such as educators, school administrators, and local education officials, which can enhance the generalizability of the results (Olsen & George, 2016).

3.3. Target Population

A target population is the complete set of people or things with similar observable features upon which the study's findings are generalized, according to Etikan et al. (2016). The target population for this study encompassed school administrators, teachers, and local education officials involved in the implementation of CBC in Matungulu Sub-County.

3.4. Sampling method

Kothari (2004) argues that sampling is the selection of a subset of the totality or aggregate of the population. It is concerned with choosing a subset of people from a population in order to estimate the characteristics of the entire population. The benefits of sampling, according to Creswell (2008), include low execution costs, the ability to assure homogeneity, and the enhancement of the accuracy and quality of the data because the sample size is less than the population. The number of objects that must be chosen from the population to form a sample is

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known as the sample size. The target audience ought to be the ideal size, neither too big nor too small, according to Kothari (2004). In this study, the target population encompassed school administrators, teachers, and local education officials. The chosen participants were required to have two years of experience in delivering CBC in order to have a better understanding of how resource availability impacts the implementation of the new curriculum.

To gain access to the participants, a request email and/or SMS was sent to various junior schools and the local sub-county education offices, appealing to school administrators, teachers, and local education officials to take part in the study. Those willing to participate were requested to contact the researcher via phone or email. The purposive sampling method was then used to recruit participants with more than two years of experience in delivering the CBC curriculum. Mbithe et al. (2023) describe purposeful sampling as a non-randomized sampling technique in which the researcher uses their expertise or judgment to select respondents who are capable of giving the required answers to the research questions. The researcher targets participants with specialized knowledge or unique insights to provide the necessary information for the study. The technique was considered suitable for this research as it allowed the researcher to select key individuals who possessed the necessary knowledge and understanding regarding the state of school infrastructure in Matungulu Sub-County and its support for implementing the CBC.

Data obtained from the education office in Matungulu indicated that there was a total population of 72 junior schools in the sub-county. A sample of 30 junior schools was picked using a systematic sampling technique. To begin with, a comprehensive list of all junior schools within Matungulu Sub-County was compiled. From this ordered list, every second school was selected to form the sample. This approach involved choosing schools at regular intervals, specifically, selecting schools in positions 1, 3, 5, 7, and so on, until the desired sample size of 30 junior schools was reached. This technique ensured an even distribution of schools across the list, minimizing selection bias and enhancing the representativeness of the sample. From each of the 30 schools, three participants, including the school administrator and two teachers, were selected to participate in the study using the purposive sampling method.

3.5. Research Instruments

According to Oso and Onen (2019), a research instrument is a device or tool used to gather and collect data to address certain research issues. In this study, a questionnaire was used to collect data from teachers and school administrators. From each of the 30 schools, the school administrator and two teachers were involved in the study The questionnaire had two sections with 9 items to fill and took about 10-15 minutes to complete. Both closed-ended and open-ended questions were utilized in the study. Closed-ended questions offer the advantage of taking less time to answer, thus enhancing the response rate. However, a key limitation of these

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questions is that they narrow options, thus limiting participants from providing detailed and nuanced responses. Open-ended questions, on the other hand, allow participants to elaborate on their thoughts, experiences, and perspectives which enables the researcher to gather richer, more in-depth data and uncover insights that might not be captured through closed-ended questions.

The face-to-face interview method was used to gather data from 5 local education officials. This technique involves collecting data via semi-structured interviews, which entail using pre-planned, open-ended questions to gather information from the participants. In this approach, the researcher can depart from the pre-arranged questions to explore the participant's responses in greater depth, leading to more detailed and nuanced responses. In this research, the face-to-face interview method was used, which allowed the researcher to gather quality data as one-on-one conversation induces participants to give more candid responses.

3.6. Pilot Study

Before the data collection process, the study instruments were piloted to discover ambiguities, duplications, and errors to improve the questionnaire and interview guide. Piloting also helped ascertain whether the responders could easily understand the instructions. The real study did not include the schools where piloting occurred in the final study. The pilot study was conducted in three schools in Matungulu East Ward, which is 10% of the 30 junior schools that were included in the study. The data collected from the pilot study was included in the main study to help minimize the number of participants needed for the main study and the duration of the research.

3.7. Instrument Validity and Reliability

Instrument validity, as defined by Best and Kahn (2013), is the characteristic of the data collection process that permits an instrument to measure what it is intended to measure. On the other hand, an instrument's dependability can be described as a measurement of how well a research tool produces consistent data after multiple trials (Katwalo & Asienga, 2015).

In this study, the validity and reliability of the findings were improved through the following steps. To begin with, elaborate measures were put in place to ensure that both the questionnaire and interview questions were comprehensive to draw out the needed information. The questions were designed based on the objectives of the study and clear and concise language was used to ensure that the questions were easy to understand for actionable feedback. In addition, a pilot study was undertaken. Further, participants were reassured that the information they gave would be anonymized to induce them to provide accurate, reliable, and unbiased information.

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3.8. Data Collection Procedures

Questionnaires were used to gather data from teachers and school administrators. This data-collection method was suitable for the study because it is both cost-effective and can allow the researcher to gather data from a large number of participants within a short time. The questionnaires were administered digitally through Google Forms, allowing for efficient distribution and convenient access for participants. Reminder messages about the survey were sent to the respondents two days before the deadline day to remind them to complete the questionnaire.

The face-to-face interview method was used to gather data from 5 local education officials. This technique involves collecting data through personal interactions between the researcher and the participants. It is one of the most popular data collection methods in the field of qualitative research because of its ability to capture non-verbal clues, which may not be picked up through other techniques (Bariu, 2020). The use of the technique allowed the researcher to gather quality data as one-on-one conversations encourage study subjects to give more candid responses.

3.9. Data Analysis

Both quantitative and qualitative methodologies were used to analyse the data. The analysis of quantitative data was conducted using descriptive statistics. Etikan et al. (2016) delineate descriptive analysis as a set of statistical tools that helps to summarise, organise, and present data meaningfully. In this research, these statistics were conducted using mean and standard deviation.

The qualitative data was analyzed using the thematic analysis method. This refers to a technique of analyzing qualitative data that is often applied to a set of texts, such as transcripts from interviews. Using this methodology, the researcher began by evaluating the transcripts to determine common patterns that came up repeatedly. Next, initial descriptive codes were assigned to describe the content in the transcripts. Finally, the generated codes were sorted and categorized into themes that were refined by linking them to the study objectives and the literature review.

3.10. Ethical Considerations

The KCA University Ethics Review Committee (KCAU SERC) granted ethical approval for the study. Furthermore, research authorization was obtained from the KCAU postgraduate school and a research permit was obtained from NACOSTI. The Matungulu Sub- County Education Office was asked permission to conduct the study. The goal of the research and the conditions of participation in the study were explained in detail in the informed consent letter that respondents

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were required to sign. Respondents were not coerced into taking part in the study, and they were made aware that their participation was entirely optional and that they were free to stop at any time if they felt wronged. All respondents who participated in the survey were not required to write their names or the names of their schools, data confidentiality and respondent anonymity were guaranteed.

4.0 DATA ANALYSIS, FINDINGS, AND DISCUSSION

4.1 Introduction

This research project aimed to explore the extent to which resources are available for the implementation of the competency-based curriculum (CBC) in junior schools (JS) within Matungulu Sub County. To accomplish this objective, quantitative data was gathered through a questionnaire administered to a sample of 30 junior schools, selected from a broader population of 72 junior schools in the sub-county. From each of the 30 schools, three participants, including the school administrator and two teachers, were chosen to complete the questionnaire. Accordingly, this study utilized 90 participants drawn from the selected junior schools. In addition, one-on-one interviews were conducted to gather qualitative data from 5 local education officials. This chapter outlines the findings derived from the analysis of data gathered from the participants. The data was analyzed according to the questionnaire responses, interview questions, and the research objectives, with the results presented in tables to provide a visual representation of how the availability of resources influences the implementation of CBC in junior schools (JS) in Matungulu Sub-County.

4.2 Response Rate

Baruch (2019) describes a response rate as a statistical tool used to evaluate the level of success in obtaining completed questionnaires from the chosen respondents. It is derived by dividing the number of completed questionnaires by the total number of questionnaires sent to the selected participants. The rate is usually presented in the form of a percentage. Non-response arises when some participants fail to finalize and submit their responses. As indicated by Muchira et al. (2023, the researcher cannot fully address the issue of non-response, but can adopt various approaches to reduce it as much as possible. For this study, the researcher adopted the following strategies. To begin with, the questionnaire was well-designed and organized to ensure respondents provided unbiased, accurate, and complete responses. Also, the researcher ensured the questionnaire was accessible for completion on various devices, including smartphones and laptops, by utilizing Google Forms. Next, the respondents were given a sufficient timeframe of at least five days to read through and answer the questions. A follow-up message was sent to

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participants two days before the due date of submission to encourage them to finalize and return their responses.

TABLE 1

Response Rate

Item	Frequency	Percentage
Number of questionnaires issued	90	—
Number of questionnaires returned	90	100
Number of questionnaires not returned	0	0
Total	**90**	**100**

Note. The dash (—) indicates that the percentage was not applicable for questionnaires issued.

As shown in Table 1 above, the researcher issued 90 questionnaires to the respondents, and all were filled and returned, achieving a response rate of 100%. This indicates that the measures put in place to enhance the response rate were effective.

4.3. Demographic Information

Demographic data was gathered to help the researcher identify patterns linked to gender, age and experience. Additionally, this information is essential for determining whether participants recruited for the study are a representative sample of the target population for generalization purposes.

TABLE 2

Demographic Characteristics of Respondents (N = 90)

Variable	Category	Frequency (F)	%	Cumulative %
Gender	Male	43	47.8	47.8
	Female	47	52.2	100.0
Age	Below 29 years	27	30.0	30.0

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Variable	Category	Frequency (F)	%	Cumulative %
	30–39 years	31	34.4	64.4
	40–49 years	26	28.9	93.3
	Above 50 years	6	6.7	100.0
Experience	2–3 years	54	60.0	60.0
	4–5 years	29	32.2	92.2
	Above 7 years	7	7.8	100.0

Note. Percentages are based on the total number of respondents (N = 90).

As Table 2 indicates, 47.8% of the surveyed teachers and school administrators were male, while 52.2% were female. Most of the participants were persons in the 30-39 years range, comprising 34.4% of the total respondents. This group was followed by participants below 29 years who accounted for 30.0%, while those between ages 40 and 49 accounted for 28.9%. Participants above 50 years were the least represented with 6.7%. The majority of the participants indicated that they have been in their current roles for 2-3 years, reflecting the recent implementation of junior schools, with most teachers having been in their roles for around 3 years. However, most of the school administrators reported that they have been working at their current schools for more than 4 years.

4.4. Findings

This research project aimed at assessing the availability of resources for implementing CBC in junior schools in Matungulu Sub-County. The study was guided by the following objectives: To assess the availability of teaching and learning (T/L) resources required for the implementation of CBC; to establish the state of school infrastructure and its support for the implementation of CBC; to assess the adequacy of teacher training and professional development; and to determine challenges faced by JS in accessing and utilizing the necessary resources for CBC.

4.4.1. Availability of T/L resources required for the implementation of CBC

Using a Likert scale of one to five, the study sought views from school administrators and JS teachers relating to the availability of teaching and learning materials, including instructional resources, textbooks, and digital resources. The overall mean and standard deviation reflecting

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the presence of T/L resources were summarized in Table 3, while participants' views were captured in Table 4.

TABLE 3

Mean and Standard Deviations of Teaching/Learning Resources (N = 90)

Statement	Mean	SD
Essential T/L materials are available and adequate.	2.72	1.10
The institution has adequate resources capable of supporting digital learning.	2.43	1.03
The school has a favorable learning environment for supporting CBC activities.	2.92	1.01

Note. SD = Standard deviation. Interpretation of means: 4.20–5.00 = Very High, 3.40–4.19 = High, 2.60–3.39 = Moderate, 1.80–2.59 = Low, 1.00–1.79 = Very Low.

Table 3 presents information on mean and standard deviation relating to the availability of T/L resources in junior schools in Matungulu Sub-County. The findings indicate that the availability of T/L materials (mean = 2.72) and the presence of a favorable learning environment (mean = 2.92) are at a moderate level. However, the availability of digital resources is rated low, with a mean score of 2.43. This means that teachers and school administrators perceive the availability of T/L materials and the presence of a favorable learning environment as moderately adequate, while digital resources are perceived as insufficient.

TABLE 4

Participants' Views on the Availability of Teaching/Learning Materials

Statement	Strongly Agree *f* (%)	Agree *f* (%)	Neutral *f* (%)	Disagree *f* (%)	Strongly Disagree *f* (%)
Essential T/L materials are available and adequate.	6 (6.7)	17 (18.9)	25 (27.8)	31 (34.4)	11 (12.2)
The institution has adequate resources capable of supporting digital learning.	4 (4.4)	8 (8.9)	28 (31.1)	33 (36.7)	17 (18.9)
The school has a favorable learning environment for supporting CBC activities.	6 (6.7)	20 (22.2)	30 (33.3)	29 (32.2)	5 (5.6)

Note. *f* = frequency; CBC = Competency-Based Curriculum. Percentages are in parentheses.

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In regard to the availability of T/L materials required for the implementation of CBC, findings in Table 4 indicated that most of the participants (34.4%) disagreed that essential T/L resources are available and adequate in their institutions. 27.8% of the participants were undecided, suggesting a level of uncertainty regarding the availability of the necessary resources. 18.9% agreed that T/L materials were available and adequate, while 12.2% strongly disagreed. Only 6.7% strongly affirmed that materials were both available and sufficient in their schools. As for the adequacy of digital resources, most respondents (36.6%) disagreed that their schools possess adequate resources to support digital learning, while a notable proportion (31.1%) remained undecided. Meanwhile, 18.9% strongly disagreed, 8% agreed, and only 4% strongly agreed. When asked about the presence of a favorable learning environment, the largest share of the participants (33.3%) took a neutral stance, followed by 32.2% who disagreed. Meanwhile, 22.2% agreed that their institutions provide a supportive learning atmosphere, and 6.7% strongly agreed.

These results align with insights derived from the thematic analysis of open-ended responses. Local education officials noted during the interviews that teaching and learning resources were available but insufficient for the full implementation of the CBC. In response to the question regarding the provision of adequate T/L materials, one of them remarked:

"We do have some teaching and learning resources in place, but they are not enough to support the full rollout of CBC. Schools are doing their best with what's available, but there's still a significant gap in materials, especially for practical and ICT-based learning."

The outcomes of this study align with previous research indicating that while many schools in Kenya possess some teaching and learning resources, they are not sufficient to support the full implementation of the new curriculum. In a study to assess the capacity to implement CBC in schools within Isiolo County, Atikiya (2021) observed that one significant challenge hindering the proper implementation of CBC is the lack of adequate funding to acquire enough teaching and learning materials. Similarly, Cheruiyot (2024) reported that many junior schools in Kenya experience considerable shortages of textbooks, digital resources, and adequately furnished classrooms. This resource deficit not only hinders the practical application of CBC activities but also impedes learners' engagement and access to quality education.

4.4.2. The state of school infrastructure

The study's second objective was to establish the state of school infrastructure in junior schools. The study, therefore, assessed the adequacy of school facilities, including classrooms, outdoor spaces, workshops, laboratories, libraries, ICT rooms, and e-learning platforms. The summary of the mean and standard deviation is shown in Table 5 while the responses of the participants are highlighted in Table 6.

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TABLE 5
Mean and Standard Deviations of the State of School Infrastructure (N = 90)

Statement	Mean	SD
The institution is fully prepared with adequate infrastructure to deliver CBC.	2.39	0.78
The school has adequate classrooms, workshops, laboratories, libraries, and ICT rooms.	2.52	1.01
The institution's outdoor space is adequate for supporting CBC activities.	3.14	1.12
The school has a robust ICT infrastructure that ensures teachers and learners utilize digital tools effectively.	2.40	0.80
The school has invested in an e-learning platform to improve teaching and learning experiences.	2.01	0.86

Note. SD = Standard deviation; CBC = Competency-Based Curriculum. Interpretation of means: 4.20–5.00 = Very High, 3.40–4.19 = High, 2.60–3.39 = Moderate, 1.80–2.59 = Low, 1.00–1.79 = Very Low.

Table 5 displays data on mean and standard deviation regarding the state of school infrastructure in junior schools within Matungulu Sub-County. The results show that the availability of outdoor space (mean = 3.14) is considered moderate, whereas the presence of other facilities, such as classrooms, workshops, laboratories, libraries, ICT resources, and e-learning platforms, is perceived as limited. This suggests that educators and school leaders regard the state of infrastructure in junior schools as insufficient.

TABLE 6
Participants' Responses on the State of School Infrastructure

Statement	Strongly Agree *f* (%)	Agree *f* (%)	Neutral *f* (%)	Disagree *f* (%)	Strongly Disagree *f* (%)
The institution is fully prepared with adequate infrastructure to deliver CBC.	0 (0.0)	6 (6.7)	34 (37.8)	39 (43.3)	11 (12.2)
The school has adequate classrooms, workshops, laboratories, libraries, and ICT rooms.	6 (6.7)	6 (6.7)	28 (31.1)	39 (43.3)	11 (12.2)

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Statement	Strongly Agree *f* (%)	Agree *f* (%)	Neutral *f* (%)	Disagree *f* (%)	Strongly Disagree *f* (%)
The institution's outdoor space is adequate for supporting CBC activities.	10 (11.1)	28 (31.1)	23 (25.6)	23 (25.6)	6 (6.7)
The school has a robust ICT infrastructure that ensures teachers and learners utilize digital tools effectively.	2 (2.2)	5 (5.6)	27 (30.0)	49 (54.4)	7 (7.8)
The school has invested in an e-learning platform to improve teaching and learning experiences.	1 (1.1)	2 (2.2)	22 (24.4)	37 (41.1)	28 (31.1)

Note. *f* = frequency; CBC = Competency-Based Curriculum; percentages are shown in parentheses.

Considering the participants' responses in Table 6, none of the surveyed teachers and school administrators strongly agreed that their schools are fully prepared with adequate infrastructure to deliver CBC. Only a small proportion (6.7%) agreed that their schools are adequately equipped to support the provision of the new curriculum. Most of the participants (43.3%) felt that their institutions lack the necessary infrastructure to fully implement CBC, while a notable number (37.8%) expressed neutrality on whether their institutions possess sufficient infrastructure. In regard to the adequacy of facilities such as classrooms, labs, workshops, libraries, and ICT rooms, the majority of participants (55.5%) reported that these resources are inadequately available, whereas only 13.4% believed their schools are sufficiently equipped with such facilities. Meanwhile, 31.1% of participants maintained a neutral stance on the matter. When asked about outdoor space availability, 31.1% agreed their institutions are adequately resourced, and 12.2% strongly affirmed this. Besides, 25.6% took a neutral stance, another 25.6% disagreed, and 6.7% strongly disagreed.

With respect to ICT infrastructure, 54.4% of participants stated that their schools do not have a strong and reliable ICT setup, and 7.8% asserted this strongly. Meanwhile, 30.0% of the respondents remained undecided, 5.6% indicated that their schools are equipped with a reliable ICT infrastructure, and 2.2% strongly affirmed the presence of such infrastructure. Concerning the adoption of an e-learning platform, 41.1% of participants indicated their schools had not invested in one, and an additional 31.1% firmly stated that such investment had not been made.

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24.4% of participants were undecided, and only 3.3% indicated that such investment had been made.

These outcomes support the conclusions drawn from the thematic analysis of participants' open-ended responses. Based on interviews with local education officials, the infrastructure in many schools across Matungulu Sub-County is inadequate and does not support the effective implementation of CBC. When asked if junior schools in the region are fully prepared with adequate infrastructure to deliver CBC, one of the officials stated:

"No, they are not fully prepared. The reality on the ground is that many junior schools in our sub-county lack the basic infrastructure required to effectively implement CBC. Classrooms are overcrowded or incomplete, and essential facilities such as workshops, laboratories, libraries, and ICT rooms are either insufficient or entirely missing in some schools. This shortage makes it extremely difficult for both teachers and learners to meet the demands of CBC."

These findings correspond with prior research, which has demonstrated that most junior schools across the country face major challenges in implementing CBC due to inadequate physical facilities such as classrooms, computer centres, library resources, laboratories, and workshops. In a study to explore issues impacting the effectiveness of CBC implementation in Baringo County, Kubai (2023) found that many schools in Kenya, particularly in rural areas, lack sufficient classrooms, which leads to overcrowding. Further, the findings indicated that most schools lack essential facilities such as computer centers, libraries, laboratories, and workshops, thereby limiting students' opportunities for hands-on learning and practical application of knowledge.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The aim of this research was to evaluate the availability of resources for implementing the competency-based curriculum in junior schools in Matungulu Sub County. The study's first objective was to assess the current availability of T/L materials required for the implementation of CBC in junior schools in the region. A majority of participants acknowledged that there are basic T/L materials in their schools, but reported that these are inadequate to support the full rollout of the new curriculum. The findings indicate that the availability of T/L materials (mean = 2.72) and the presence of a favorable learning environment (mean = 2.92) are at a moderate level. However, the availability of digital resources is rated low, with a mean score of 2.43.

The second objective of the study aimed to examine the state of school infrastructure and its adequacy in supporting the implementation of CBC. The results reveal that a significant number of junior schools in Matungulu are under-resourced in terms of the basic infrastructure necessary for the effective delivery of the new curriculum. The results show that the availability of outdoor space (mean = 3.14) is considered moderate, whereas the presence of other facilities, such as

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classrooms, workshops, laboratories, libraries, ICT resources, and e-learning platforms (mean = 2.52), is perceived as limited. Participants reported that many classrooms are either overcrowded or remain unfinished, hindering conducive learning environments.

5.3. Conclusions

The study concludes that the implementation of the new curriculum in junior schools within Matungulu Sub County is significantly impeded by a lack of adequate resources. Even though some T/L resources, such as instructional materials and textbooks, are available in most schools, they are not sufficient to sustain the full and effective adoption of the new curriculum. Many institutions also lack sufficient infrastructure, including classrooms, workshops, laboratories, libraries, and digital tools. Nevertheless, the study indicates that most teachers and school administrators in Matungulu have undergone adequate training and capacity-building in recent periods. Ongoing efforts aimed at providing training and enhancing educators' understanding of the new curriculum have substantially improved their preparedness and enhanced their capacity to deliver the new curriculum.

5.4. Recommendations

5.4.1. Recommendations of the Study

The study recommends the creation of legal provisions to ensure that the National Treasury allocates sufficient funds to junior schools for infrastructure development, acquisition of teaching and learning resources, and the implementation of more teacher training programs. Also, the study recommends that education officials establish a clear system to regularly assess resource needs in junior schools. Monitoring can help identify under-resourced institutions and guide targeted interventions, enhancing CBC implementation in disadvantaged areas. In addition, it is proposed that efforts be made to sensitize parents about the CBC framework, its positive impact, and their role in supporting school infrastructure development and the provision of teaching and learning resources. Further the study recommends that the County Education Office take an active lead in organizing more training sessions, including workshops, seminars, and CPD programs, to support teacher development.

5.4.2. Recommendations for Future Research

For future research, it is proposed that a random sampling method be utilized in order to improve the generalizability of results. This method reduces selection bias by ensuring that every member of the target population has an equal chance of being selected, thereby increasing the validity and applicability of the findings to a wider population. It is further suggested that future studies draw participants from a wider geographical region to strengthen the applicability of results. Future

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research may investigate the role of ICT infrastructure, such as e-learning platforms and mobile-based teaching aids, in supplementing physical materials. This may help to understand how differing levels of digital access influence both teacher preparedness and student engagement under the CBC. Additionally, subsequent studies could explore how inadequate resources impact student performance under CBC in Kenyan junior schools. The findings could help guide educational reforms and strategic planning. Further research could analyze innovative resource mobilization strategies junior schools in Kenya can adopt to facilitate CBC implementation. The findings could help inform sustainable funding models.

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