SCHOOL-RELATED FACTORS INFLUENCING USE OF COMPETENCY-BASED ASSESSMENT IN PRE-PRIMARY SCHOOLS IN NYERI COUNTY, KENYA

BY

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DECLARATION

This research project is my original work and hasn't been submitted to any other university for certification. It includes sources that are properly cited and acknowledged. Any borrowed text, data, graphics, pictures, or tables, including those from the internet, have been credited and referenced using current APA style, following anti-plagiarism guidelines.

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This scholarly work is dedicated to my cherished family for their invaluable moral backing

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ACRONYMS AND ABBREVIATIONS

CBE: Competency-Based Education

EFA: Education for All

IBE: International Bureau of Education

KICD: Kenya Institute of Curriculum Development

MoE: Ministry of Education

NACOSTI: National Commission for Science and Technology Information

NG-CDF: National Government Constituencies Development Fund

QASO: Quality Assurance and Standards Officer

TAC: Teachers Advisory Centre

TSC: Teachers Service Commission

ABSTRACT

Competency-Based Assessment (CBA) is central to the Competency-Based Curriculum (CBC). It focuses on evaluating what learners can do with the knowledge and skills they acquire. In pre-primary education, CBA helps build essential skills early in life. However, in Kenya, many teachers still rely on out-dated norm-referenced assessments. These methods do not align with the CBC and may hinder learners from acquiring the necessary competencies. The effectiveness of CBA in pre-primary schools in Nyeri County remains unclear. Factors such as teacher motivation, school type (public or private), and the availability of resources may influence its use. The specific objectives of the study were to: Determine the extent of Competency-Based Assessment (CBA) used in public and private pre-primary schools; investigate the relationship between teachers' motivation and the use of CBA in pre-primary schools; examine the correlation between resource availability and the use of CBA in pre-primary schools; and analyze the challenges teachers faced in implementing CBA in pre-primary schools and propose practical strategies for addressing them. This study was guided by Michael Fullan's Educational Change Model and adopted a descriptive correlational research design. The target population for the study comprised all 69 registered pre-primary schools in Nyeri County, which included 41 public and 28 private schools. Random sampling selected 63 teachers, and purposive sampling identified 22 head teachers. Data was collected using questionnaires and interviews, with both qualitative and quantitative methods used for analysis. Before the main data collection, a pilot study was conducted in one public and one private pre-primary school in Nyeri County, which were not included in the actual sample. Validity of the instruments was enhanced through expert judgment while reliability was tested using Cronbach's alpha, which yielded a reliability coefficient of 0.72. Data analysis was performed using the Statistical Package for Social Sciences (SPSS version 28.0), generating descriptive statistics like frequencies, percentages, means, and standard deviations. Inferential analysis employed Pearson's "r" and t-tests. The mean difference in CBA use between public and private schools was insignificant (p-value .731). Correlation analysis showed significant negative correlations between teacher motivation and CBA use (-.797) and between resource availability and CBA use (-.584). Findings revealed low motivation for CBA due to inadequate training, poor instructional materials, lack of infrastructure, and inadequate teaching resources. Interviews highlighted challenges such as insufficient training and unclear policies. The study recommended addressing these issues to improve CBA implementation in pre-primary schools. Most of the head teachers expressed concerns over the limited understanding of CBA among teachers, leading to confusion and inconsistency. Additionally, logistical issues, such as funding for assessment materials, were frequently mentioned as barriers to successful implementation. The study recommended that management of schools should enhance teachers' capacity in use of CBA and provide adequate learning resources including course books and summative assessment tools. The county governments should ensure timely disbursement of funds to pre-primary schools to acquire more learning resources to support the implementation of CBA.

CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

This chapter presents the background to the study, the statement of the problem, purpose of the study, research objectives, research questions and significance of the study. It further presents limitations and delimitations as well as assumptions of the study. Finally, the chapter discusses the theoretical and conceptual frameworks as well as the operational definition of key terms.

1.1 Background of the Study

In today's interconnected and fast-evolving world, education systems globally are undergoing a paradigm shift to align learning with the demands of the 21st century (DeCoito, 2024). Learners are expected to be adaptive, innovative, and competent in solving real-world problems. As such, Competency-Based Education (CBE) is gaining traction as an effective model that prepares learners not just to absorb knowledge but to apply it meaningfully. Scholars agree that the traditional focus on rote memorisation and time-based progression is inadequate for the modern learner (Catacutan et al., 2023). Instead, the focus must be on equipping learners with transferable competencies such as critical thinking, creativity, collaboration, communication, and digital literacy. This shift has been driven by globalisation, rapidly advancing technology, and a knowledge-based economy that demands lifelong learning and adaptability (Nandini, 2023). Adaptability is now more crucial than ever, as individuals must navigate an ever-evolving landscape of information and skills (Nsengimana et al, 2020). To thrive in this environment, educational systems must evolve, fostering an atmosphere that encourages exploration

and innovation while preparing students to tackle complex challenges in their future careers.

Competency-Based Education is a transformative model that redefines the design, delivery, and assessment of learning. CBE is defined as an instructional approach where progress is based on a learner's demonstrated mastery of specific skills and knowledge, rather than on time spent in a classroom (Cyprian, 2025). This makes learning flexible, personalised, and focused on outcomes rather than processes. In this model, teachers are facilitators of learning and assessment becomes an integral, continuous process aimed at determining learners' strengths and gaps. The emphasis is on real-life relevance students must be able to demonstrate competencies in authentic contexts, bridging the gap between school and life (Kacaniku, 2024). Consequently, assessments in CBE must align with this philosophy, emphasising performance tasks, portfolios, observations, and other formative strategies over summative, standardised testing.

Globally, many countries have adopted CBE to reform their education systems. For example, Mexico began implementing CBE in 2009, introducing policies to ensure learners acquire academic knowledge and develop life skills, values, and attitudes essential for societal contribution and personal development (Tromp & Datzberger, 2021). In the United States, competency-based programs have been widely embraced in K–12 and higher education, focussing on learner-centred instruction and flexible pathways to achievement (Foster & Jones, 2020). These programmes have enabled learners to progress at their own pace, resulting in higher engagement and improved retention. Similarly, Finland, Norway, and Australia have successfully implemented CBE

elements in their curricula, integrating project-based learning, interdisciplinary teaching, and continuous assessment.

In Sub-Saharan Africa, countries like Rwanda have pioneered educational reforms that place competence at the centre of teaching and learning. Rwanda's adoption of CBE was part of a broader strategic plan to produce globally competitive graduates who are skilled, innovative, and employable (Rwigema & Andala, 2022). The curriculum reforms in Rwanda focus on nurturing creativity, independence, and critical thinking across all education levels, starting from early childhood. Research from the region indicates that when properly implemented, CBE improves learner outcomes and teacher effectiveness and increases learners' readiness for both the labour market and higher education (Nsengimana et al., 2020; Nteziyaremye et al., 2024). However, these gains are only possible with adequate teacher support, sufficient teaching and learning materials, and a shift in mind set towards valuing practical skills and formative assessment.

In Kenya, the push for curriculum reform began in earnest in 2011 when the government acknowledged the limitations of the 8-4-4 system, which was largely exam-orientated and focused on content coverage rather than holistic development (Gichuru et al., 2021). A comprehensive needs assessment by the Kenya Institute of Curriculum Development (KICD) highlighted the urgency of a curriculum that would foster employability, creativity, and citizenship. As a result, the Competency-Based Curriculum (CBC) was officially launched in 2017, aimed at equipping learners with seven core competencies: communication and collaboration, self-efficacy, critical thinking and problem-solving, digital literacy, citizenship, learning to learn, and imagination and creativity. The

curriculum also introduced Competency-Based Assessment (CBA) as a crucial component to support formative, learner-focused evaluation strategies (Nyonje & Kidombo, 2024). This innovative approach aims to create a more holistic education system that not only prioritises academic achievement but also prepares students for the complexities of the modern workplace. By integrating these competencies into everyday learning, the CBC seeks to nurture well-rounded individuals who can contribute meaningfully to society.

However, this curriculum overhaul has not been without challenges particularly at the pre-primary level, which was largely excluded in the design of the former 8-4-4 system. Previously, pre-primary education was not formally recognised as part of the national education structure, with Class One considered the official entry point to schooling (Akala, 2021). This lack of attention led to on-going underfunding of pre-primary schools, which still struggle with not having enough qualified teachers, poor facilities, few learning materials, and unsuitable ways to assess students. Many classrooms are overcrowded, poorly ventilated, and not equipped with age-appropriate materials or environments conducive to experiential learning. These deficits compromise the quality of early childhood education and directly hinder effective implementation of CBC and CBA.

Furthermore, teacher motivation emerges as a key determinant of curriculum success. In pre-primary education, many teachers are demoralised due to poor remuneration, a lack of recognition, limited career advancement opportunities, and minimal professional development support (Shikalepo, 2020). Motivation is strongly linked to the quality of

pedagogy, innovation in teaching practices, and commitment to educational reforms. In public schools especially, teachers often experience burnout, resource scarcity, and heavy workloads factors that reduce their enthusiasm and capacity to implement new assessment frameworks (Erichsen & Reynolds, 2020). Although the government has invested in training through workshops and in-service programs, many teachers report that these are sporadic, poorly coordinated, and do not sufficiently address the practical aspects of implementing CBA in pre-primary settings.

As the researcher, my engagement with educators, education officials, and curriculum developers revealed a critical gap between policy and practice, especially in the domain of assessment. Despite national policies mandating the use of CBA, many pre-primary schools continue to rely on norm-referenced assessments, such as end-term exams, that do not align with the principles of CBC. Teachers often lack clarity on how to assess competencies in young learners, particularly in large classes with limited resources. Additionally, the decentralisation of early childhood education to local governments has created disparities in implementation, with some counties investing more heavily than others in pre-primary education. These disparities raise urgent concerns about equity, consistency, and quality across the education system.

Therefore, this study was prompted by the need to explore how school-related factors such as school type (public or private), teacher motivation, and resource availability are influencing the extent to which teachers implement Competency-Based Assessment in pre-primary schools in Nyeri County. Furthermore, the study sought to identify the challenges teachers face in adopting CBA, despite its acknowledged importance. By

looking into these areas, the study hopes to add to the current discussions and help shape policies, providing practical suggestions to improve the use of Competency-Based Assessment and ultimately raise the quality of early childhood education in Kenya.

1.2. Statement of the Problem

Competence-based assessment is critical because it measures and monitors learners' progress through competency assessment as opposed to knowledge-based assessment. This method ensures holistic learning. Effective implementation of competence-based curriculums requires teachers who conduct competency-based assessments and use the results to enhance learning. Competency-Based Assessment (CBA) is central to the Competency-Based Curriculum (CBC). It focuses on evaluating what learners can do with the knowledge and skills they acquire. In pre-primary education, CBA helps build essential skills early in life. However, in Kenya, many teachers still rely on out-dated norm-referenced assessments. These methods do not align with the CBC and may hinder learners from acquiring the necessary competencies. The effectiveness of CBA in pre-primary schools in Nyeri County remains unclear. Factors such as teacher motivation, school type (public or private), and the availability of resources may influence its use. Many public schools face challenges like limited materials and low teacher morale. Private schools may lack proper training on CBA despite having better resources. This study was conducted to find out how these school-related factors affect the use of CBA and to understand the challenges teachers face in its implementation.

1.3. Purpose of the Study

This study aims at examining how school features were influencing the extent teachers used Competency-Based Assessment in pre-primary schools in Nyeri County, Kenya.

1.4 Objectives of the Study

The study aimed to:

1. Determine the extent of Competency-Based Assessment (CBA) used in public and private pre-primary schools.
2. Investigate the relationship between teachers' motivation and the use of CBA in pre-primary schools.
3. Examine the correlation between resource availability and the use of CBA in pre-primary schools.
4. Analyze the challenges teachers faced in implementing CBA in pre-primary schools and propose practical strategies for addressing them.

1.5 Research Hypotheses

Here are the null hypotheses of the study that were tested:

1. $H0_1$: There was no statistically significant difference in the use of Competency-Based Assessment (CBA) between teachers in public and private pre-primary schools.
2. $H0_{2:}$ There was no statistically significant relationship between teachers' motivation and the use of CBA in pre-primary schools.
3. $H0_3$: There was no statistically significant a relationship between the availability of resources and the use of CBA in pre-primary schools.

1.6 Research Question

In pre-primary schools, what challenges did teachers face when implementing competency-based assessment?

1.7 Significance of the study

This study was significant as it generated new insights into the implementation of Competency-Based Assessment (CBA) in pre-primary schools, particularly highlighting the school-related factors that influenced its use. The findings were expected to benefit various stakeholders involved in early childhood education.

First, school administrators and teachers benefitted from the findings by gaining a clearer understanding of how school-specific factors such as motivation, resource availability, and school type influenced their ability to apply CBA effectively. This understanding enabled them to evaluate and improve their internal practices and learning environments to better support the competency-based approach.

Second, county and national government policymakers benefitted from the study by gaining evidence-based insights into the challenges and enablers of CBA implementation in public and private pre-primary schools. These findings helped them make informed decisions on resource allocation, training needs, and support systems required to enhance the success of the Competency-Based Curriculum (CBC) through effective assessment strategies.

Third, the Ministry of Education benefitted through policy-level implications of the study. The results provided practical recommendations for improving teacher training programmes, developing assessment tools, and creating implementation guidelines

tailored to the unique needs of pre-primary schools. These improvements ensured a more consistent and quality-driven rollout of CBA across counties.

Lastly, researchers and scholars benefitted from the study as it contributed to the growing body of knowledge on competency-based learning and assessment, particularly in the Kenyan context. The study identified gaps in current practices and suggested areas for further academic investigation, thereby serving as a foundation for future research in early childhood education and assessment practices.

1.8 Limitations and Delimitations of the Study

The limitations and delimitations of the study are comprehensively discussed under the following sub-sections:

1.8.1 Limitations

One major limitation was the fear among some participants, particularly teachers, that school administrators or education officials might use their responses against them. This fear could have influenced the honesty of their responses. To address this concern, respondents were assured of confidentiality and anonymity. They were asked not to indicate their names or the names of their schools on the questionnaires. They were also told that the study was only for academic purposes and that their answers would not be shared with authorities.

Another limitation stemmed from the logistical challenge of covering a wide geographical area within Nyeri County. Due to time and resource constraints, it was not feasible to reach all pre-primary schools. As a result, the study focused on a

representative sample of both public and private schools selected through stratified and purposive sampling to ensure inclusivity and diversity in school characteristics.

Scheduling interviews with head teachers proved to be another challenge. Many school heads had tight schedules and administrative responsibilities, making it difficult to secure their time. To overcome this, the researcher planned interviews in advance and conducted them during school breaks, lunch hours, or after lessons, ensuring minimal disruption to school activities.

Additionally, the presence of an outsider in the classroom such as the researcher often leads to anxiety or altered behaviour among both teachers and learners. This could affect the validity of observed teaching and assessment practices. To minimise this effect, the researcher conducted pre-observation briefings with teachers and made multiple visits to schools to allow participants to become comfortable with their presence.

1.8.2 Delimitations

This study was confined to pre-primary schools within Nyeri County, Kenya, and therefore excluded pre-primary institutions from other counties. The study specifically examined school-related factors such as teacher motivation, resource availability, and school type as they influenced the use of Competency-Based Assessment (CBA). It did not examine non-school-related variables such as parental influence, government policy implementation gaps, or socio-economic backgrounds of learners, although these may also affect CBA usage.

The inclusion criteria focused on pre-primary school teachers and head teachers in both public and private institutions who had experience with the Competency-Based Curriculum (CBC). Schools that had not yet begun implementing CBC were excluded, as were institutions outside Nyeri County. The study deliberately targeted respondents who were directly involved in classroom assessment practices to ensure relevance and depth of information collected.

1.9 Assumptions of the Study

This study was based on several assumptions that were considered true for the purpose of guiding the research design, data collection, and interpretation of findings. First, it was assumed that all participating teachers and head teachers had a basic understanding of Competency-Based Assessment (CBA) and were aware of its implementation under the CBC framework. This assumption was critical since the study depended on their insights and experiences with CBA. Second, it was assumed that respondents were honest and understood the study's importance. It was also assumed that the anonymity and confidentiality measures adopted encouraged truthful responses without fear of victimisation. Third, the study assumed that school-related factors such as teacher motivation, resource availability, and type of school had a measurable influence on the extent to which CBA was practised in pre-primary education. This assumption informed interview guides—were valid and reliable tools for collecting data on the topic and that they could capture the relevant perceptions and practices accurately.

1.10. Theoretical Framework and Conceptual Framework

This sub-section comprehensively discuss the relevance of the theoretical framework to the study and explains the conceptual framework.

1.10.1 Theoretical Framework

This study was guided by Michael Fullan's Educational Change Model (Fullan, 2015), which outlines the process of educational change through four major phases: initiation, implementation, continuation, and outcome realisation. The model emphasises that educational change is a dynamic, non-linear, and multidimensional process that is influenced by various internal and external factors. Fullan's model was found to be relevant for this study, as it provides a comprehensive framework for understanding the conditions necessary for the successful implementation of Competency-Based Assessment (CBA) in schools, particularly pre-primary institutions.

During the initiation phase, Fullan highlights the importance of recognising innovation as a solution to a pressing educational problem. The decision to implement Competency-Based Curriculum (CBC) in Kenya, which incorporates CBA, was based on the need to shift from rote memorisation to skill and competency acquisition. This aligns with the study's first objective, which aimed to determine the extent to which CBA was being used in public and private pre-primary schools. The initiation phase also calls for inclusive participation, involving stakeholders such as teachers, school leaders, and curriculum developers to ensure ownership and relevance of the innovation. Thus, this study examined how the involvement of these stakeholders influenced the uptake of CBA.

The implementation phase is centred on three key elements: the characteristics of the change itself (e.g., complexity, clarity), local factors (e.g., school environment, leadership), and external factors (e.g., training, support, and policies). This phase directly supports the second and third objectives of the study, which sought to investigate the relationship between teachers' motivation and the use of CBA and to examine the correlation between resource availability and the application of CBA. Fullan emphasizes that successful implementation requires clear communication of goals, adequate training, and the availability of necessary instructional materials all of which were explored in the study.

The continuation phase emphasises the sustainability of the change. Fullan explains that for an innovation like CBA to endure, it must be embedded into the school's culture, supported through on-going professional development, and led by committed administrators and teachers. This part of the theory relates to the fourth objective of the study, which was to analyse the challenges teachers face in implementing the CBA and propose practical solutions. Sustained implementation of CBA in pre-primary schools in Nyeri County requires addressing these challenges and creating mechanisms for long-term support and refinement of practice.

Finally, the outcome realisation phase reflects the point at which innovation yields the intended results. According to Fullan, achieving desired outcomes is dependent on a combination of pressure, support, stakeholder engagement, and capacity building. These outcomes include improved learner competencies, teacher empowerment, and instructional effectiveness. The study assessed whether pre-primary schools in Nyeri

County were moving towards these outcomes by evaluating how school-related factors influenced CBA usage.

Fullan's model was relevant to this study because it provided a clear, scientific explanation of the educational change process and identified the conditions under which innovations like CBA succeed or fail. Each part of the model matched the study's goals, providing a way to understand how things like motivation, resources, school type, and challenges affected the use of CBA in pre-primary education. It also supported the interpretation of findings and the development of context-sensitive strategies for improving CBA implementation in line with CBC goals in Kenya.

1.10.2 Conceptual Framework

As shown in the diagram below, some variables could influence the use of CBA, and therefore impact student learning outcomes.

Independent Variables

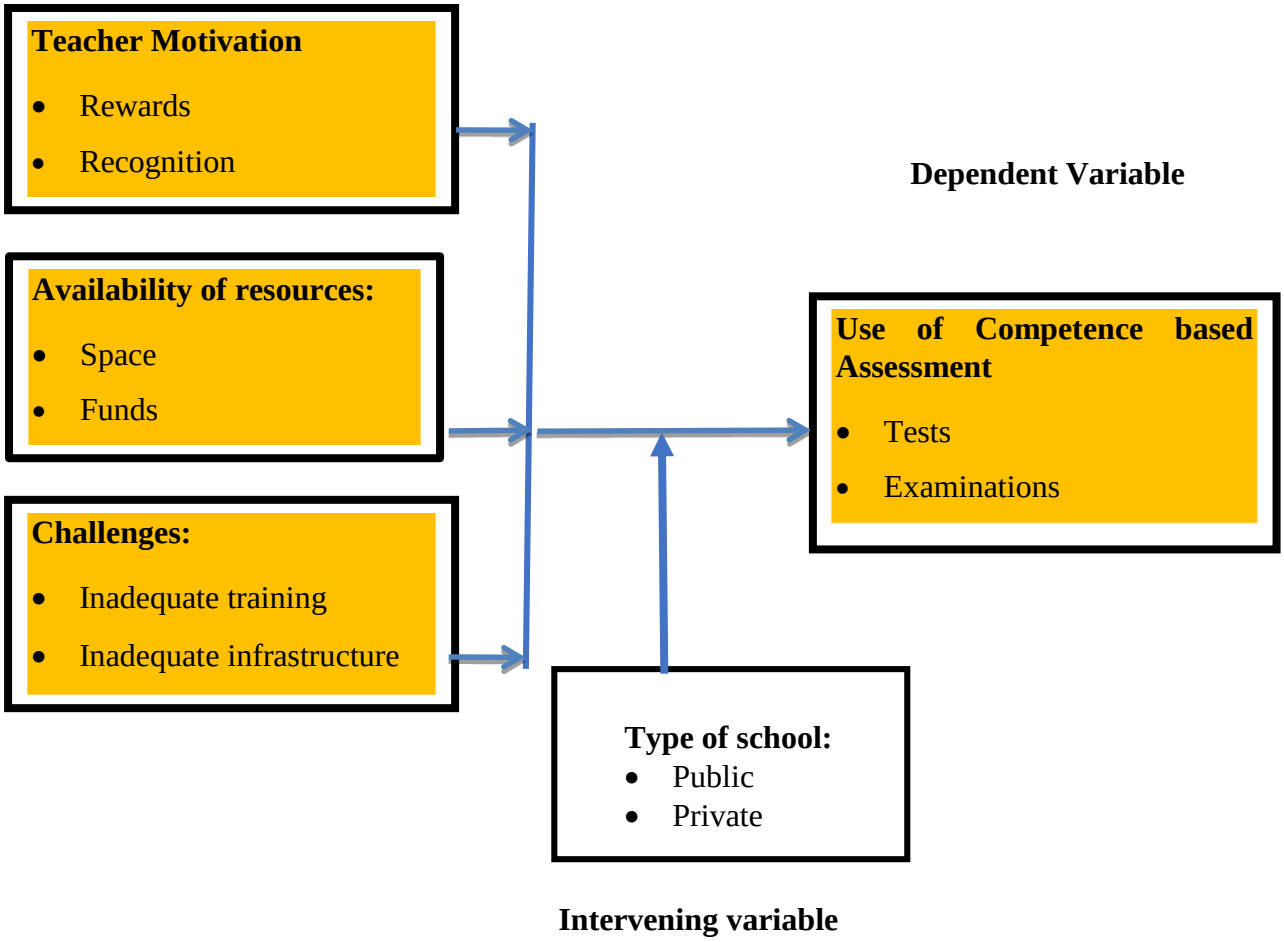

Figure 1.1 Conceptual Framework

The figure shows the variables which have a direct influence the use of competency-based assessments which also affect learning outcomes. Teacher motivation is a crucial

factor that directly impacts the implementation of CBA. When teachers are motivated, they are more likely to embrace new educational methodologies, including competency-based assessment, as they see its relevance and potential to improve teaching and student learning. Motivation can stem from various sources: intrinsic motivation, such as a genuine passion for teaching and the desire to improve student outcomes; extrinsic motivation, such as financial incentives or recognition; or professional development opportunities that equip teachers with the skills and knowledge to use CBA effectively. Motivated teachers are more likely to invest the time and energy required to implement CBA effectively in their classrooms. They might implement it poorly, reducing its effectiveness in improving learning outcomes.

The availability of resources plays a significant role in the extent to which CBA is implemented in pre-primary schools. Resources can include physical materials (e.g., assessment tools, learning materials, and classroom supplies), human resources and infrastructure. For CBA to be implemented effectively, teachers need access to appropriate and sufficient resources to facilitate the assessment process. For example, without access to adequate learning materials or assessment tools, teachers may struggle to assess competencies in a meaningful way. Additionally, resources such as professional training on CBA are crucial for teachers to understand the approach and apply it correctly.

Despite the potential benefits of CBA, teachers often face various challenges that hinder its effective implementation. These challenges may include a lack of training, resistance to change, an overwhelming workload, limited time for planning and assessment, and

even issues related to the national curriculum or policy implementation. Teachers may also struggle with adapting traditional assessment practices to a more flexible, competency-based approach, which requires detailed planning, personalised attention, and continuous assessment of student progress. Additionally, external factors such as large class sizes, inadequate support from school leadership, or a lack of clear guidance from educational authorities can complicate the implementation of CBA.

Teacher motivation, availability of resources, and the challenges in the use of CBA do not operate in isolation. Instead, they interact in complex ways to influence the successful implementation of CBA. For example, if teachers are highly motivated but lack sufficient resources, their enthusiasm may not translate into effective use of CBA, as they may struggle to implement the approach due to resource constraints. On the other hand, if schools provide adequate resources and address the challenges teachers face in implementing CBA, motivated teachers are more likely to use the assessment method effectively. When all these factors align, the intended outcome is improved learning outcomes, as CBA is designed to focus on individualized student progress and the development of specific competencies.

1.11 Operational Definition of Terms

Availability of resources:-refers to the accessibility and adequacy of material, financial, human, and infrastructural resources that support the implementation of Competency-Based Assessment (CBA) in pre-primary schools.

Competency-Based Assessment (CBA): - In the context of pre-primary schools, CBA includes both formative assessments, such as continuous feedback throughout learning, and summative assessments, such as final evaluations to determine if a student has achieved the required competencies for their developmental stage.

Pre-primary schools:-refer to educational institutions that provide early childhood education for children typically between the ages of 3 and 6 years, prior to their entry into primary school. These schools aim to lay the foundation for future learning by fostering cognitive, social, emotional, and physical development.

School-related factors:-include school policies, leadership support, teacher qualifications, available teaching resources, the school's organisational culture, and the physical learning environment.

Teacher motivation: refers to the internal and external factors that drive a teacher's commitment, enthusiasm, and effort toward implementing teaching practices, including competency-based assessments, in the classroom.

The Competency-Based Curriculum (CBC):- In the context of pre-primary schools, CBC seeks to nurture holistic development in young children, with a focus on skills acquisition through practical, experiential learning.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

An overview of the relevant literature for this study is provided in this chapter, covering Competency-Based Assessment applications in pre-primary education settings, staff motivation and the implementation of CBA, and resources available for the implementation of CBA. The chapter culminates in a summary of the key findings.

2.2 Extent of use of Competency-Based Assessment in Pre-primary Schools

Abragan et al. (2022) conducted a study in the Philippines aimed at identifying challenges faced by kindergarten, elementary, and secondary school teachers in implementing the K+12 curriculum. The study explored teachers' roles in curriculum implementation and found that motivated teachers viewed themselves as designers of students' learning experiences, facilitating environments where students could create their own knowledge. This study highlighted how teacher motivation could influence the implementation of competency-based assessment (CBA) in pre-primary schools. However, while the focus was on teachers' roles in curriculum delivery, the study did not delve deeply into the specific use of CBA. The present study, however, explored how school-related factors in Nyeri County, Kenya, influenced the extent to which CBA was used by pre-primary teachers, particularly focusing on teacher motivation as a driver for CBA adoption.

Damit et al. (2021) examined the issues and challenges surrounding outcome-based education (OBE) implementation among vocational college teachers in Malaysia.

Findings revealed that there was no significant difference in curriculum delivery between newly graduated teachers and those with more experience. The study indicated that recent training did not have a considerable impact on the teachers' ability to interpret the curriculum effectively. This study highlighted a gap in how teacher experience and training might affect the use of competency-based assessments. However, this research did not focus on the early childhood sector or the influence of school-related factors on CBA usage, which was a primary concern of the present study. The present research addressed this gap by focusing specifically on pre-primary school teachers' experience and training in Nyeri County and assessing how these variables affected CBA application.

Okello (2022) explored the influence of school-based factors on the implementation of the competency-based curriculum (CBC) in primary schools in Kajiado North Sub-County, Kenya. The study used surveys to collect data from 287 respondents. The findings indicated that inadequate teaching-learning materials, limited curriculum training, and insufficient time allocation commonly associated with public schools negatively impacted the implementation of CBA. In contrast, private schools, which allocated more resources and time to the implementation of CBC, performed better at utilising CBA. This study provided an important perspective on the challenges faced by public schools in implementing CBA but primarily focused on primary education and did not examine the pre-primary sector, which was the focus of the present study. Additionally, Okello’s study used a survey design, while the current study used a correlational research design to analyse the relationship between school setting and CBA

application in pre-primary classrooms, a gap that had not been extensively explored in the literature.

Jebii (2020) investigated the preparedness of teachers for implementing the competency-based curriculum in lower public primary schools in Kilifi and Nandi counties, Kenya. The study used questionnaires, interview schedules, and observation tools to collect data from 12 headteachers and 48 teachers. The results indicated that teacher preparedness significantly contributed to the effective implementation of the CBC (β=0.342, t=7.985, $p<0.05$). While this research offered helpful information about teacher preparedness for primary schools, it did not focus on the extent of use of competency-based assessment in pre-primary schools. Additionally, it did not consider how school-related factors such as motivation, resource availability, or environmental challenges may have affected the use of CBA in the early years of education. The present study, therefore, filled this gap by exploring these factors in Nyeri County's pre-primary schools.

Otieno and Machani (2022) examined teacher competencies in evaluating the Competency-Based Curriculum (CBC) for primary school learners in Lang'ata Sub-County, Kenya. Their study involved 15 primary schools and a sample of 110 CBC teachers, with data collected through questionnaires. They found that most teachers were not adequately prepared to assess students according to the new curriculum, which impeded students' ability to acquire the required competencies. While this study underscored the significance of teacher readiness for CBA implementation, it did not specifically tackle the application of competency-based assessment methods in pre-primary classrooms. Additionally, it looked at a different area, while this study examined

how CBA is used in pre-primary schools in Nyeri County, with a bigger group of participants and a more detailed look at school factors affecting CBA use.

2.3 Teachers' Motivation and Use of Competency-Based Assessment in Pre-primary Schools

There are several motivations behind pursuing a teaching career, including a desire for personal growth, continuous learning, positively impacting the lives of others, and achieving job security (Kagema, 2018). In the United Kingdom, a study by Thompson and Williams (2022) explored the impact of teacher motivation on the implementation of competency-based education in early childhood settings. They found that teachers with higher levels of intrinsic motivation those driven by the desire to foster student development and achievement were more likely to engage deeply with competency-based assessment methods. The study also highlighted that extrinsic motivators, such as financial incentives and institutional support, enhanced teachers' willingness to adopt new pedagogical approaches, including CBA. However, the study focused exclusively on urban settings in the UK, where schools may have more resources than those in rural or less-developed regions. The present study seeks to extend this research by focusing on Nyeri County's pre-primary schools, which may face different challenges related to teacher motivation and resource constraints.

Furthermore, a study by El-Sayed et al. (2021) in Egypt investigated teacher motivation and its effect on the use of competency-based assessments in early childhood education. The researchers found that teachers' motivation was significantly linked to the successful implementation of CBA, especially when teachers received adequate training and had

access to necessary teaching resources. However, the study found that teachers in rural areas faced more challenges in maintaining motivation, primarily due to resource shortages and lack of administrative support. This study highlights the critical role of teacher motivation but does not explore the interplay between teacher motivation and resource availability, particularly in the context of Kenyan pre-primary schools. This gap will be addressed in the present study, which will examine how both motivation and resources influence the use of CBA in Nyeri County.

In South Africa, Maseko and Mabasa (2023) conducted a study on the role of teacher motivation in the successful implementation of CBA in early childhood education. They found that extrinsic factors, such as teacher salary increments, professional development opportunities, and the recognition of teachers' efforts by school administrators, had a considerable impact on teachers' motivation to adopt CBA practices. However, teachers who lacked these extrinsic motivators often struggled to implement CBA effectively, as they did not feel supported by school leadership. This study contributes to the growing body of literature on teacher motivation in resource-constrained settings, but it is limited by its focus on urban South African schools. Therefore, the current study aims to fill this gap by examining the unique challenges faced by teachers in rural Kenya, particularly in Nyeri County, where resource limitations and lack of administrative support may impact teachers’ motivation to implement CBA.

A study by Masele (2020) investigated how teacher motivation influenced the implementation of the Competency-Based Curriculum (CBC) in Tanzanian primary schools. The study revealed that teachers who were intrinsically motivated, such as those

with a strong sense of professional fulfilment, were more inclined to implement CBC effectively, particularly in developing formative assessments. However, the study also noted that extrinsic motivators like pay and professional recognition had a less significant impact on teachers' day-to-day use of competency-based assessment. Although this study provided useful insights into teacher motivation in neighbouring Tanzania, it did not consider the availability of resources, which is a critical factor in the Kenyan context. This gap in literature presents an opportunity for the current study to explore how both intrinsic and extrinsic motivators, coupled with resource availability, influence the use of CBA in Nyeri County's pre-primary schools.

In Kenya, Kamau (2022) explored teacher motivation and its role in the adoption of the competency-based curriculum in pre-primary schools in Nairobi County. Kamau found that teachers who were motivated by intrinsic factors, such as the desire to see student progress and make a difference in their students' lives, were more likely to engage with the CBA approach. Extrinsic factors, including salary increases, school infrastructure, and continuous professional development, also played a critical role in motivating teachers to adopt the new curriculum. However, the study did not examine how resource availability, particularly in rural schools, affected the motivation of teachers to implement CBA. This gap is important, as rural areas in Kenya may face different challenges that affect teacher motivation and curriculum implementation. The present study aims to address this gap by focusing on Nyeri County's pre-primary schools and considering how resource constraints influence teachers' motivation to use CBA.

Another recent study by Njoroge (2021) examined teacher motivation in the context of the Competency-Based Curriculum (CBC) in primary schools in central Kenya. Njoroge found that teachers who were motivated by both intrinsic factors, such as the satisfaction derived from student learning, and extrinsic factors, such as professional development and career progression, were more likely to effectively implement CBA. However, Njoroge's study also identified significant barriers, including a lack of adequate resources and insufficient training, which hindered teachers' ability to use CBA effectively. This research investigated the role of motivation in successful curriculum implementation but did not fully explore how the availability of teaching resources impacts teacher motivation, particularly in the pre-primary setting. The current study aims to bridge this gap by focusing on resource availability and its influence on teacher motivation and the implementation of CBA in Nyeri County's pre-primary schools.

2.4 Availability of Resources and use of Competency-Based Assessment in Pre-primary Schools

Resources play a pivotal role in the effective implementation of Competency-Based Assessment (CBA) in schools. According to Haug et al. (2021), resources encompass teaching methodologies, materials, time, and teachers' skills. In a study by Smith and Johnson (2021) in the United States, the relationship between resource availability and the application of Competency-Based Education (CBE) in primary schools was explored. They found that the availability of digital learning tools and materials played a significant role in facilitating CBE. However, their research noted that while technology is widely available in urban areas, rural schools often lack the necessary resources. Their study's methodology, involving a large-scale survey of over 500 educators, highlighted a critical

gap in how rural schools, similar to those in Kenya, adapt CBE in resource-constrained settings. The present study, focusing on Nyeri County, will contribute by examining this disparity in resource availability between public and private pre-primary schools and how it affects CBA use.

In Egypt, a 2022 study by Farouk and Ali explored the influence of resource availability on the implementation of competency-based education in pre-primary schools. They found that inadequate resources such as physical space and educational materials limited teachers' ability to implement CBA effectively. However, the study's small sample size of just 30 schools leaves room for broader generalisations. This gap will be addressed in the present study, which aims to include a larger sample size and a more diverse range of schools, particularly focusing on Nyeri County's public and private institutions, to provide more comprehensive insights.

In South Africa, a 2024 study by Mokoena and Maluleke examined how resource availability impacts the implementation of CBA in early childhood education. The researchers identified that the lack of sufficient learning resources, such as textbooks and digital tools, was a major obstacle in rural areas, leading to inconsistent application of CBA. Their findings pointed to the need for better teacher training programs. However, their study was conducted in urban settings, and thus, it leaves an unexplored gap regarding rural schools, which are more analogous to those in Nyeri County. The present study will bridge this gap by focusing on both rural and urban pre-primary schools in Nyeri County and exploring how resource availability affects CBA.

A study by Jelagat (2023) conducted in the North Rift and Western Kenya sub-counties highlighted that a significant barrier to implementing educational programs, including CBA, is a lack of resources. The study identified inadequate resources for assessment tools as a key challenge. Similarly, Osman A. (2023) examined school-based factors affecting the implementation of the Competency-Based Curriculum in Garissa Sub-County, Garissa County. The study, involving 100 teachers, 14 headteachers, and various educational officers, revealed that while ICT and audio visual equipment were relatively adequate, there was a noticeable shortage of fully trained teachers in many pre-primary schools. This gap in teacher training and resource allocation undermines the effectiveness of CBA in these schools. These studies point out that there must be a deeper investigation into how the availability of resources, especially human resources and teacher training, influences CBA implementation.

Finally, in Kenya, a 2021 study by Otieno and Mwangi examined resource challenges in implementing the Competency-Based Curriculum (CBC) in pre-primary schools in Nairobi County. The study found that while some schools had adequate resources, others faced significant shortages, especially in rural areas. The study used a mixed-methods design with a sample size of 150 teachers, and it revealed that resource disparities were one of the primary obstacles to effective CBA implementation. However, the study did not explore how teacher motivation interacted with resource availability, which is a key focus of the current study. The present study will expand on this by exploring the relationship between resource availability, teacher motivation, and the use of CBA in both public and private schools in Nyeri County.

2.5 Challenges Experienced by Teachers while using Competency-Based Assessment in Pre-primary Schools

Numerous challenges, particularly in resource-constrained settings, have plagued the implementation of Competency-Based Assessment (CBA) in pre-primary schools globally. Nsengimana (2020) conducted a study in Rwanda that revealed elementary school teachers often struggled with adopting new CBA practices despite undergoing formal training. Many reverted to traditional teaching methods due to familiarity and lack of sufficient support. Furthermore, the study identified inadequate teaching and learning resources as a major obstacle. The study suggests the need for not just initial training but continuous professional development and adequate provision of instructional materials. However, its findings are contextually limited to Rwanda, a country with a different educational framework and policy environment than Kenya. This study highlights the need to examine these challenges specifically within Kenyan pre-primary school settings.

A more recent study by Silva and Andrade (2023) in Brazil examined the obstacles pre-primary educators faced while implementing CBA in under-resourced regions. The researchers employed a qualitative case study approach involving 30 teachers and found that limited classroom autonomy, bureaucratic overload, and lack of relevant teaching aids hindered effective assessment. While insightful, the small sample and qualitative focus limit the generalizability of the findings. Moreover, Brazil's socio-political educational context differs significantly from Kenya's. Thus, this study underlines the necessity of localised investigations into how Kenyan teachers navigate similar challenges in implementing CBA.

Ng’andu (2022) evaluated the challenges faced by high school teachers in implementing CBA in Tanzania. The study located widespread issues such as lack of adequate textbooks, limited ICT tools, poor teacher motivation, and insufficient knowledge of CBA instructional methods. While these findings are useful, the study was conducted in a Tanzanian high school context, which differs from Kenya's pre-primary education system in terms of policy and learner needs. As such, a gap remains in understanding how these factors play out at the foundational level of education in Kenya, a gap this study seeks to fill.

In Uganda, a study by Kamya and Okello (2022) focused on early childhood educators and their struggles with competency-based education, particularly in relation to assessment practices. Using a descriptive survey design with 120 pre-primary teachers, the study found that many educators lacked clear understanding of assessment frameworks and had minimal access to continuous training. Moreover, the study revealed that rural schools were disproportionately affected by shortages of materials and trained personnel. Despite its rich data, the study did not explore differences between public and private institutions, an area that the current research aims to address in Nyeri County.

Locally, a recent study by Mwangi and Wanjiru (2024) in Nakuru County, Kenya, assessed pre-primary school teachers' experiences with CBA. Through a mixed-methods approach involving 200 teachers, the study found that overcrowded classrooms, lack of assessment tools, and limited parental involvement were key challenges. While the study made important contributions, it did not disaggregate data to examine whether these challenges varied between public and private schools. The current study extends this line

of inquiry by analysing such differences within Nyeri County and recommending context-specific strategies for effective CBA implementation.

Obuhatsa (2020) investigated factors influencing the implementation of the Competency-Based Curriculum (CBC) in lower primary schools in Luanda Sub-County, Vihiga County, Kenya. The study found that while a majority of teachers (87.1%) felt confident in their CBC content knowledge and 80.71% believed they had the necessary pedagogical skills, a notable 8% lacked exposure to ICT tools crucial for effective CBA. Although the study demonstrated positive teacher attitudes, it also revealed challenges related to technological literacy and resource availability. However, this study focused broadly on CBC and not specifically on assessment practices at pre-primary levels. The present study aims to bridge this gap by targeting assessment-specific challenges in Nyeri County's pre-primary context.

Nthiga and Wambiri (2023) explored how teacher training, experience, and attitudes influenced CBC implementation in pre-primary schools in Juja, Kiambu County. Using both quantitative and qualitative data from questionnaires and interviews, the study reported significant relationships between teacher preparedness and successful CBC implementation. A Cronbach's alpha score of $r = 0.75$ indicated the strong reliability of their tools. However, challenges such as inadequate teacher support systems and inconsistent follow-up training were still prevalent. This study, although methodologically robust, was limited in scope to one sub-county and did not deeply analyse assessment-specific barriers, leaving room for the current study to explore CBA challenges more broadly in Nyeri County's diverse pre-primary school environments.

2.6 Summary of Literature Reviewed

This literature review was organised into four main topics that match the study's goals: (1) how much Competency-Based Assessment (CBA) is used, (2) how teacher motivation affects CBA, (3) how the availability of resources relates to the use of CBA, and (4) the challenges teachers encounter when using CBA in pre-primary schools. The review shows that while many studies around the world have looked at how curriculums are put into practice and evaluated, there are fewer that have specifically looked at how competency-based assessment is used in early childhood education. Studies have often conflated curriculum implementation with assessment practice, thereby overlooking the nuanced role that teachers play in interpreting and applying assessment frameworks.

Motivation emerged as a key factor influencing teachers' engagement with the curriculum. Studies show that motivated teachers are more likely to embrace CBA practices, facilitate learner-centred approaches, and pursue professional development.

However, many of these works either examined motivation in general or in secondary school contexts and did not isolate its specific impact on pre-primary assessment practices. Furthermore, some relied on theoretical models without sufficient empirical backing. This study sought to bridge that gap by empirically examining how intrinsic and extrinsic motivation among pre-primary teachers correlates with their use of CBA tools and techniques in the Kenyan context.

In terms of resource availability, literature from both local and international studies has consistently emphasised the importance of materials, facilities, and human resources in supporting curriculum implementation. Yet, most of these studies were out dated or did

not consider the evolving resource demands of the CBA model, which require specific tools such as individualised learner assessment charts, observation checklists, and digital portfolios. Furthermore, few studies focused on early childhood education or made distinctions between resource availability in public and private pre-primary schools. This study aimed to fill this gap by investigating the specific resource types needed for effective CBA at the pre-primary level and examining their availability across different school categories in Nyeri County.

With regard to challenges, the review found that existing literature often cites generalised obstacles to CBC implementation, such as resistance to change, inadequate training, and insufficient learning resources (Nsengimana, 2020; Ng'andu, 2022). However, the studies do not offer a disaggregated analysis of the challenges unique to assessment practices, especially at the pre-primary level. Moreover, the methodological limitations in some studies (e.g., small sample sizes, lack of longitudinal data, or regional biases) reduce their applicability to broader Kenyan contexts. This study sought to isolate and analyse the specific challenges that pre-primary teachers in Nyeri County face when applying CB thereby offering practical, context-sensitive recommendations for policy and practice.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

As part of this chapter, you learn about the study's methodological approach, which covers the study's design, variables, location, target population, sample size and sampling methods, sample size, research instruments, pilot study, data collection procedures, data analysis, and logistics and ethical considerations.

3.2 Research Design

This study adopted a descriptive correlational research design. A descriptive correlational design is good for studies that want to explain what is happening right now and look at how different factors are related, without changing anything in the study setting. According to Creswell and Creswell (2018), this design is effective when the researcher seeks to describe a population or phenomenon and explore potential relationships between variables as they exist naturally. The design was deemed appropriate for this study because it enabled the researcher to describe the extent of Competency-Based Assessment (CBA) usage in pre-primary schools and simultaneously examine the relationships between CBA implementation and school-related factors such as teacher motivation, resource availability, and challenges faced during implementation. This approach is commonly used in educational research where intervention is not feasible or ethical and where understanding associations among variables can inform policy and practice. As noted by Ary, Jacobs, and Sorensen (2019), correlational designs are particularly useful for identifying the strength and direction of relationships between key

variables in real-world educational settings, making it suitable for the objectives of this research.

3.3 Variables

This study focused on three categories of variables: independent, dependent, and intervening variables. Each of these was clearly defined and measured using appropriate scales to ensure consistency and validity in data collection and analysis. The dependent variable in the study was the use of Competency-Based Assessment (CBA) in pre-primary schools. This variable was measured using indicators such as the frequency of administering competency-based tools, the provision of individualized feedback to learners and parents, and the use of performance tasks and observational assessments. The responses were collected using an ordinal scale, categorised into frequency-based options such as “Always,” “Sometimes”, and “Rarely”.

The independent variables included teacher motivation, availability of resources, and the type of school. Teacher motivation was measured using indicators such as the frequency and relevance of training received on CBA, recognition and rewards for effective assessment practices, and perceived workload in implementing CBA. These indicators were also measured using an ordinal Likert scale, ranging from “strongly agree” to “strongly disagree”. Resource availability was assessed in terms of the adequacy of instructional space, access to teaching and assessment materials, and availability of funds to support assessment activities. This variable was similarly measured using an ordinal scale. The type of school was considered a categorical independent variable and was classified as either public or private, using a nominal dichotomous scale. In addition, the

study included an intervening variable—challenges in implementing CBA. These included factors such as insufficient teacher training, teacher resistance to new methods, lack of parental support, and large class sizes. These challenges were measured using an ordinal scale to assess the level of difficulty experienced, with categories such as “Major challenge”, “Minor challenge”, and “Not a challenge”.

3.4 Location of the Study

The study was conducted in Nyeri County, located in the central region of Kenya. The selection of this location was purposive and informed by educational and demographic considerations. According to the Nyeri County Integrated Development Plan (CIDP) 2018–2022, the overall enrolment rate in pre-primary schools within the county stood at 59.2%, which was below the national average. This relatively low enrolment rate raised concerns about early learning outcomes and highlighted the need to investigate the implementation and effectiveness of educational policies, such as competency-based assessments. Nyeri County also presents a diverse educational landscape, with both rural and urban settings and a mixture of public and private schools. This diversity made it possible to capture a wide range of experiences, practices, and challenges related to the use of CBA. Additionally, the presence of both well-resourced private schools and under-resourced public schools provided a comparative basis for evaluating the influence of institutional factors on the implementation of CBA. These contextual features made Nyeri County a suitable location for exploring school-related factors influencing the use of CBA in early childhood education.

3.5 Target Population

The target population for the study comprised all 69 registered pre-primary schools in Nyeri County, which included 41 public and 28 private schools. Within these institutions, the target respondents were 207 pre-primary teachers and 69 headteachers. This population was selected because of their direct involvement in the implementation of Competency-Based Curriculum (CBC) and assessment practices at the foundational level of education. Headteachers are responsible for overseeing the execution of curriculum-related policies, while teachers are the primary implementers of classroom assessments. As such, both groups possess relevant insights and experiences necessary for addressing the research objectives. According to Mugenda and Mugenda (2003), a target population should exhibit key characteristics that align with the research problem, enabling the researcher to draw valid conclusions and generalise their findings. Therefore, the selected population was deemed appropriate for understanding how institutional features influence the use of CBA in pre-primary education.

3.6 Sampling Techniques and Sample Size Determination

The study employed a multi-stage sampling approach, which included stratified, purposive, and random sampling techniques to ensure representativeness and reduce selection bias. Stratified sampling was first used to categorize the schools into two distinct groups public and private. This stratification was essential in ensuring that the sample adequately represented both types of schools, given that one of the study's objectives was to compare CBA usage between them.

Purposive sampling was used to identify schools with functional pre-primary sections, as only these institutions were relevant to the study. From the list of eligible schools, simple random sampling was employed to select 22 schools (13 public and 9 private). This method ensured that each school had an equal chance of being selected. Within these schools, teacher respondents were also selected through simple random sampling to maintain objectivity. On the other hand, we selected headteachers through purposive sampling, taking into account their leadership role and strategic perspective on curriculum implementation.

The sample size was determined using the recommendation by Mugenda and Mugenda (2008), which states that a sample size of at least 30% of the target population is adequate for descriptive research. Based on this, the sample included 63 teachers (30% of 207), 22 schools (30% of 69), and 22 headteachers (30% of 69). This group represents approximately 30.4% of the total population, which is considered statistically sufficient for meaningful analysis and generalisation in social science research. Thus, 63 teacher respondents (30% of the population) were selected from 22 pre-primary schools through simple random sampling, as shown in Table 3.1.

Table 3.1 Sampling Frame

	Schools		**Teachers**		**Head teachers**	
	Population	30 % Sample	Population	30 % Sample	Population	30 % Sample
Public	41	13	151	46	41	13
Private	28	9	56	17	28	9
Total	**69**	**22**	**207**	**63**	**69**	**22**

3.7 Research Instruments

A questionnaire was given to teachers and a schedule of interviews was arranged for school heads for the purposes of collecting data.

3.7.1 Questionnaire for Pre-primary Teachers

The questionnaire was designed specifically for pre-primary school teachers and was divided into five sections (Appendix I). Section A collects demographic information from respondents. Section B measured the extent of teachers' use of Competency-Based Assessment (CBA). Section C focused on teachers' motivation, Section D explored the availability of resources, and Section E gathered information on the challenges encountered when using CBA. The use of questionnaires was appropriate in this study because they were efficient tools for collecting standardised data from a large population in a relatively short time. They also ensure anonymity and reduce interviewer bias, which is crucial for gathering honest responses regarding teacher practices and perceptions (Cohen, Manion, & Morrison, 2017). Furthermore, questionnaires were deemed suitable as they allowed for the measurement of multiple variables concurrently, thus enabling the collection of extensive and comparable data across different schools.

3.7.2 Interview Schedule for Head teachers

An interview schedule was used to collect qualitative data from head teachers, who are central figures in overseeing curriculum implementation at the school level ((Appendix II). The interviews offered more information about the institutional and administrative challenges affecting the use of CBA in pre-primary schools. The decision to use interviews was based on their strength in collecting rich, detailed information that cannot

be easily obtained through questionnaires. Interviews allowed the researcher to probe further, clarify responses, and gain a more nuanced appreciation for context-specific challenges (Creswell & Creswell, 2018).

3.8 Pilot Study

Before the main data collection, a pilot study was conducted in one public and one private pre-primary school in Nyeri County, which were not included in the actual sample. The pilot was essential in testing the clarity, relevance, and reliability of the instruments. Conducting the pilot in two types of schools ensured that both public and private school contexts were represented, helping identify any context-specific issues in the instruments. The results of the pilot study revealed a few ambiguities in the phrasing of some questionnaire items, particularly those measuring resource availability and motivation. Based on this feedback, the wording of three items was revised for clarity, and two redundant items were removed to enhance focus. This process helped improve the internal consistency and overall usability of the instruments during the main data collection.

3.8.1 Validity

Validity refers to the extent to which an instrument measures what it is intended to measure. To ensure content validity, the questionnaire and interview items were developed based on a comprehensive review of literature and aligned directly with the study's four objectives. Expert judgment from university supervisors and specialists in early childhood education was sought to evaluate whether the items adequately represented each construct. The reviewers suggested aligning certain questionnaire items

more closely with the study's operational definitions, which led to necessary refinements. This process strengthened the tool's ability to measure constructs such as teacher motivation, CBA usage, and implementation challenges (Ary, Jacobs, & Sorensen, 2019).

3.8.2 Reliability

Reliability concerns the consistency and stability of measurement over time. This study employed the test-retest method to evaluate the reliability of the questionnaire. This approach involved administering the same questionnaire to a group of 10 teachers from two different schools (excluded from the final sample) on two separate occasions, two weeks apart. The responses were then correlated using Cronbach's alpha, which yielded a reliability coefficient of 0.72. According to Mugenda and Mugenda (2003), a coefficient of 0.7 or above is considered acceptable and indicates good internal consistency for the instrument. Thus, the questionnaire was deemed sufficiently reliable for the study.

3.9 Data Collection

Data collection was carried out in two sequential phases over a period of four weeks. First, the researcher obtained an introductory letter from the university and research authorisation from the National Commission for Science, Technology and Innovation (NACOSTI). Permissions were also sought from the Nyeri County education office and the participating school heads. In the first phase, questionnaires were distributed to 63 randomly selected pre-primary school teachers across 22 schools. The researcher personally administered the questionnaires to ensure respondents understood the items. The filled questionnaires were collected later after giving teachers ample time to respond thoroughly.

The second phase involved conducting interviews with 22 head teachers—one from each participating school. These interviews were scheduled in advance and conducted face-to-face in the school setting. The researcher used a semi-structured interview guide, which allowed flexibility to probe further depending on the responses given. Interview notes were transcribed and coded for thematic analysis during the data interpretation stage.

3.10 Data Analysis

The study adopted a mixed-method approach, utilising both quantitative and qualitative analysis techniques to comprehensively address the research objectives. This methodological triangulation allowed for the cross-verification of data from different sources, enhancing the validity and reliability of the study's findings. By integrating the strengths of both data types, the researcher was able to offer a richer and more nuanced review of how school-related factors influenced the use of Competency-Based Assessment (CBA) in pre-primary schools in Nyeri County.

Quantitative data collected through questionnaires were coded and entered into the Statistical Package for the Social Sciences (SPSS) Version 28.0 for analysis. Descriptive statistics, such as means, frequencies, standard deviations, and percentages, were used to summarise the data. These measures offered an overview of the general patterns of CBA usage, teacher motivation, resource availability, and challenges encountered. For inferential statistics, independent sample t-tests compared CBA usage in public and private schools, and Pearson’s correlation coefficient (r) was used to see how strongly related teacher motivation and resource availability are to CBA usage. These statistical tools were appropriate because they test for significant relationships and differences

among variables measured at ordinal and interval levels (Mugenda & Mugenda, 2003; Creswell & Creswell, 2018).

For the qualitative data obtained through head teacher interviews, a thematic analysis approach was employed. The responses were transcribed, read multiple times for familiarization, and then categorized into themes and sub-themes corresponding to the study objectives. Key themes included administrative challenges, training needs, assessment tools, and stakeholder support. Direct quotes from participants were included in the results to give real insights and back up the numbers, which helped confirm the use of different research methods. The mixed-methods data analysis strategy reinforced the findings by providing both statistical rigour and contextual depth. SPSS version 26 was chosen for its robustness in handling educational data and user-friendly interface suitable for complex statistical operations. Table 3.2 presents a summary of how data were analysed per research objective:

Table 3.2: Data Analysis and presentation per objective

Objective	Data analysis tool	Scale	Type	Presentation
To determine how widely teachers employ Competency-Based Assessment (CBA).	t-test Mean Standard deviation	Ordinal	Quantitative and qualitative	Tables Verbatim quotes
To explore the correlation between teachers' motivation and their implementation of Competency-Based Assessment (CBA).	Pearson 'r' Mean Standard deviation	Ordinal	Quantitative and qualitative	Tables Verbatim quotes
To examine the link between the availability of resources and the implementation of Competency-Based Assessment (CBA).	Pearson 'r' Mean Standard deviation	Ordinal	Quantitative and qualitative	Tables Verbatim quotes
To explore the challenges experienced by teachers while using Competency-Based Assessment	Frequency and Percentages	Nominal	Quantitative and qualitative	Tables Verbatim quotes

3.11 Logistical and Ethical Considerations

Both logistical planning and ethical safeguards were put in place before conducting the study to ensure a smooth, legally compliant, and ethically sound research process.

3.11.1 Logistical Considerations

The researcher followed a structured hierarchy to obtain the required permissions to conduct the study. First, an introductory letter was obtained from Kenyatta University's Graduate School, which was used to apply for ethical clearance from the university's

Ethics Review Committee. After receiving ethical approval, the researcher applied for a national research permit from the National Commission for Science, Technology and Innovation (NACOSTI). The NACOSTI permit authorises the researcher to engage with schools and collect data within Nyeri County. With this permit, the researcher approached the Ministry of Education (County Director's Office) and secured further authorisation to visit public and private schools. Individual consent was then sought from head teachers of the selected schools. All these steps ensured that the study was conducted legally, systematically, and in full observance of institutional and governmental research protocols (Kothari, 2004).

3.11.2 Ethical Considerations

Ethical considerations were crucial in this study to safeguard the rights, dignity, and privacy of the participants. Informed consent was sought from all participants prior to data collection. They were provided with detailed information about the study's objectives, the nature of their participation, potential risks, and their right to withdraw at any point without penalty. Appendix I contains a sample of the informed consent form. To maintain confidentiality, all data were anonymized by assigning codes and pseudonyms to respondents, ensuring that individual identities could not be traced from the data. Only the researcher had access to the raw data, which was securely stored on a password-protected computer. Anonymity was further maintained by avoiding any direct identifiers in the final report, such as names of schools or individual teachers. Respondents were told that their participation was voluntary and that no one was forced or bribed to join the study.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATIONS AND DISCUSSION

4.1 Introduction

As part of this chapter, the findings of the study are analyzed, interpreted, and discussed. Teachers in Nyeri County, Kenya, were asked to assess how school characteristics impact their use of Competency-Based Assessment. In order to analyze the results, the following objectives were used:

1. This study aims to investigate the degree to which teachers incorporate CBA practices across public and private pre-primary educational institutions.
2. Examine teachers' motivation and their use of classroom behavior analysis in pre-primary schools.
3. Examining the impact of resource accessibility on the implementation of CBA in early childhood education settings.
4. The study aims to uncover the difficulties experienced by teachers when implementing Competency-Based Assessment approaches in pre-primary educational settings.

4.2 General Information and Demographic Data

The response rate and demographic information were determined and presented in the following sub-sections. The study aimed to characterize respondents based on demographic attributes including gender, age, teaching experience, and the duration of service for administrators in their current positions.

4.2.1 Response Rate

Surveys were distributed to 63 teachers, and interview schedules were completed by 22 school principals. The response data is summarized in Table 4.1.

Table 4.1: Response Rate

Category	Sample size	Actual participants	Response rate
Teachers	63	60	95.24%
Head teachers	22	20	90.90%
Total	**85**	**80**	**94.12%**

As shown in Table 4.1, 60 questionnaires were successfully collected and returned. Despite the small sample size, the researcher efficiently engaged the participants. Out of the 22 head teachers chosen for interviews, 20 took part, while 2 were unavailable due to unexpected factors. This culminated in an impressive overall response rate of 94.12%, deemed sufficient to draw conclusions and generalize the findings to the target population.

4.2.2 Distribution of Teachers by Gender

Figure 4.1 shows how females and males make up the teaching workforce.

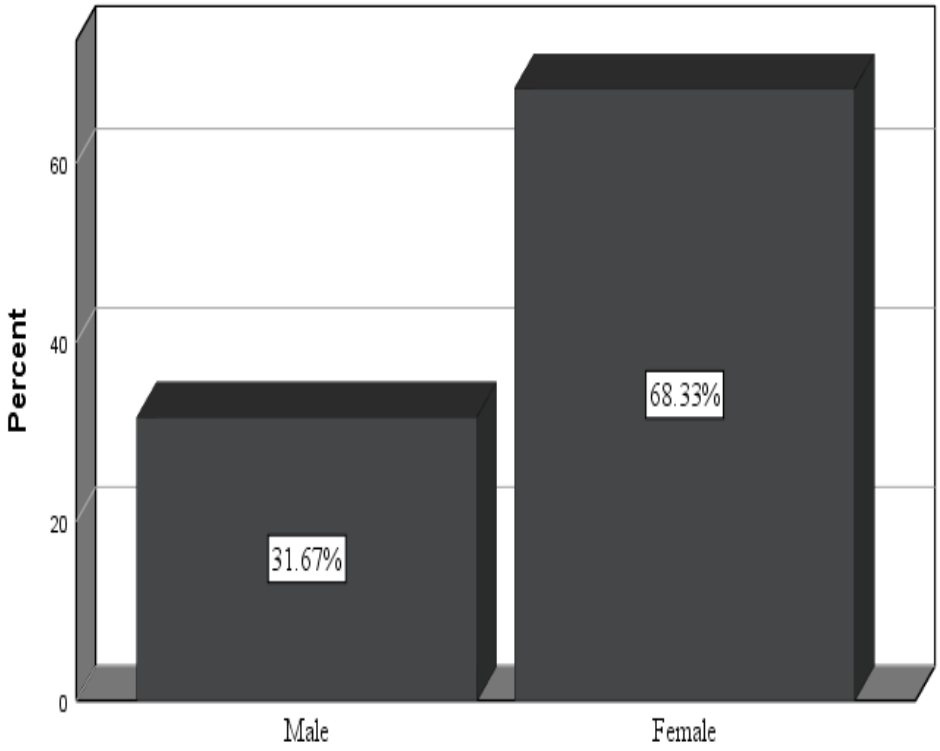

Figure 4.1: Distribution of Teachers by Gender

Most teachers were female, as shown in Figure 4.1 - 41 were female, while 19 were male. This suggests the majority of primary school teachers are women.

4.2.3 Distribution of Head Teachers by Gender

The gender breakdown of the teaching workforce is visualized in Figure 4.2.

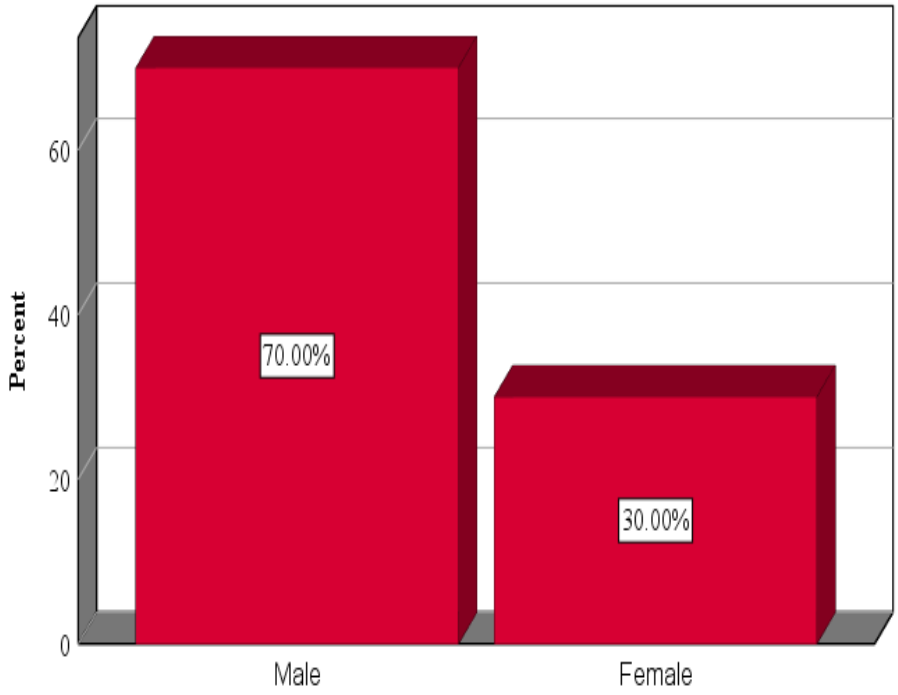

Figure 4.2: Distribution of Headteachers by Gender

According to Figure 4.2, the majority of school leaders were men, with 14 male Headteachers compared to only 6 females. This finding indicates that the school leadership roles within the studied institutions were primarily held by men.

4.2.4 Age of the Teachers

Moreover, participants reported their age, and the results were displayed in Figure 4.3.

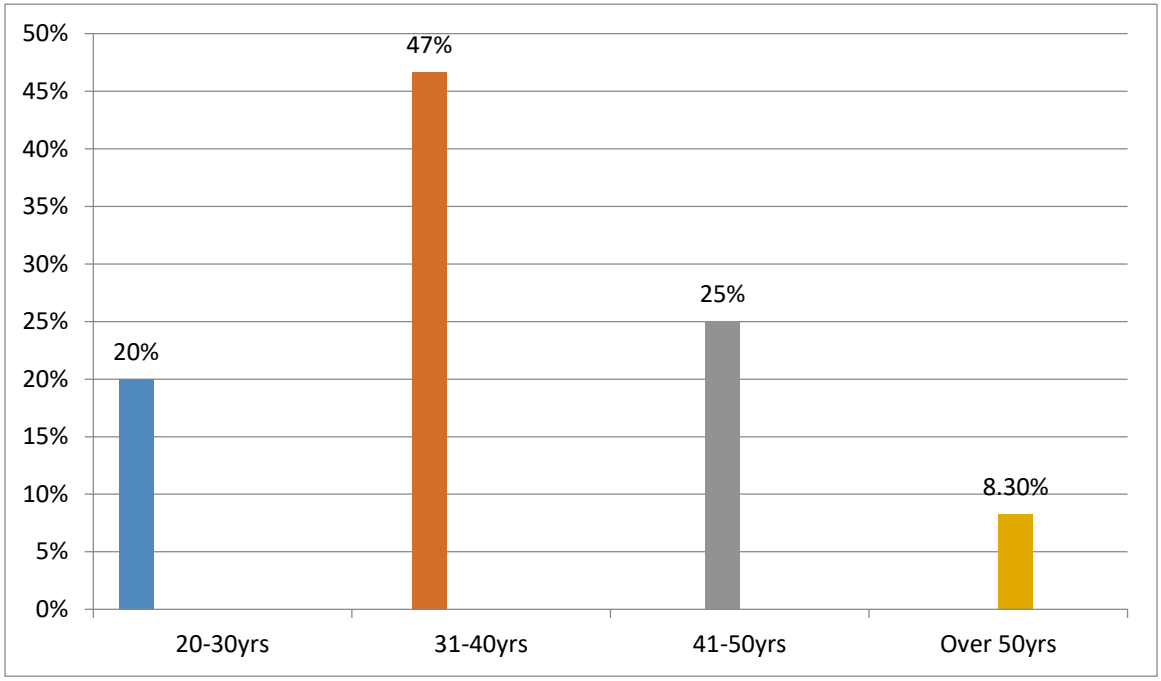

Figure 4.3: Distribution of the Teachers by Age

According to Figure 4.3, nearly half (47%) of teachers were 31-40 years old, followed by 25% 41-50 years old, 20% 20-30 years old, and 8.3% over 50. The majority of teachers were within age ranges appropriate to teach young children.

4.2.5 Distribution of Teachers by Level of Training

Figure 4.4 illustrates the distribution of teachers based on their level of training..

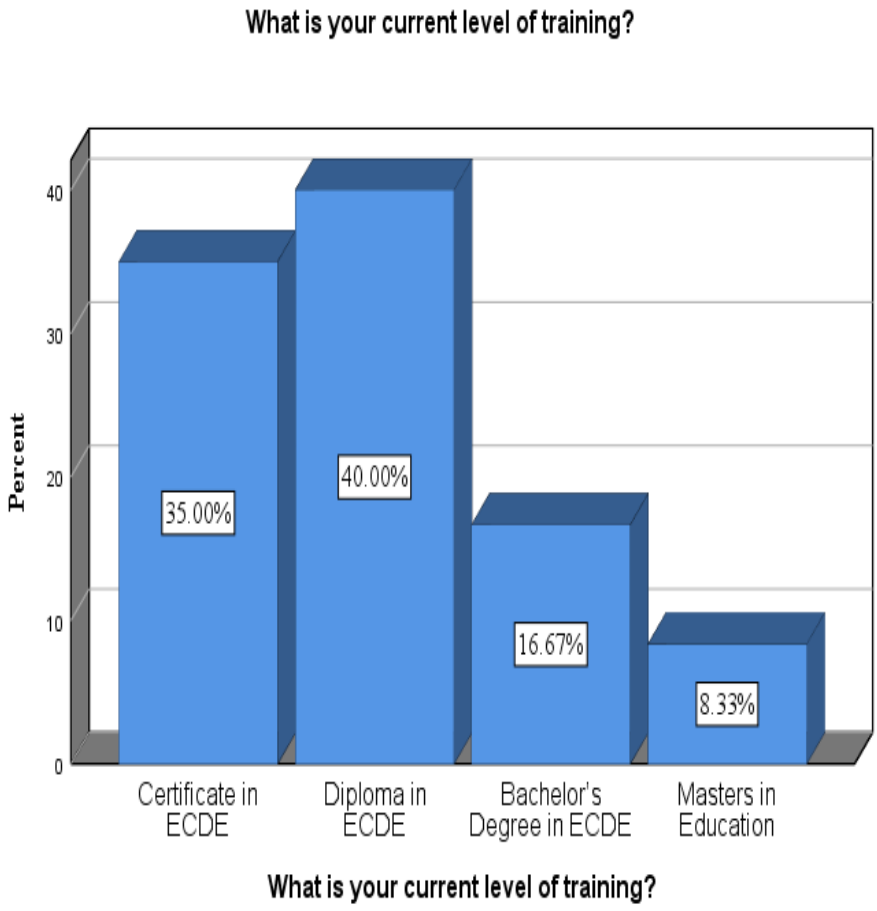

Figure 4.4: Administrators by Level of Training

According to Figure 4.4, the majority of teachers hold diplomas (40.0%) or certificates in education (35.0%). Additionally, 16.7% have bachelor's degrees, and 8.3% hold master's degrees.

4.3 Extent Teachers use Competency-Based Assessment in Public and Private Pre-Primary Schools

This study aimed to ascertain the extent to which teachers in both public and private pre-primary schools employ Competency-Based Assessment. The research employed a mixed-methods approach, beginning with in-depth exploration of the phenomenon through qualitative data collection and analysis. This was followed by the gathering and examination of quantitative data to validate the qualitative insights, as outlined in the subsequent sections:

4.3.1 Qualitative Analysis

Findings were thematically analyzed, and presented in sub-themes as shown below:

Sub-theme 1: understanding of Competence-Based Assessment (CBA)

In an interview, head teachers articulated their understanding of Competency-Based Assessment (CBA) as a method that prioritizes evaluating students based on their competencies and practical skills rather than rote memorization. For instance, one head teacher noted,

> "*CBA allows us to assess children's abilities in real-life contexts, not just through tests*." (Male head teacher, school B).

The above sentiment suggests a progressive view towards assessment, where the focus shifts from traditional examination formats to a holistic evaluation of a child's abilities. However, varying interpretations of CBA were observed, with some head teachers indicating confusion about its specific implementation strategies. This suggests partial conformity with findings by Otieno and Machani (2022), who noted inadequate teacher

readiness to implement competency-based assessment, particularly due to insufficient training.

4.3.2 Quantitative Analysis

To validate the qualitative data through triangulation, this study also tested the first null hypothesis (H01) as follows:

H01: ***There is no statistically significant difference in use of Competency-Based Assessment between teachers in public and private pre-primary schools.***

Using individual mean scores, Table 4.2 summarizes the results of the assessment of teachers' use of Competency-Based Assessment (CBA).

Table 4.2 Individual Mean Scores in Teachers' Use of Competency-Based Assessment

	N	Min	Max	Mean	Std. Dev
I use Competence Based Assessment to measure learning outcomes in CBC.	60	1	4	1.98	.930
I use assessment methods testing competencies and not just academic knowledge and skills.	60	1	5	3.30	1.094
I use a variety of ways for learners to demonstrate that they have learned.	60	2	5	3.90	.630
I provide continuous feedback to learners and parents	60	1	5	3.83	.924
Use a range of assessment methods to measure learners' competencies.	60	1	5	3.65	.917
I provide opportunities for special-needs learners to demonstrate mastery of their learning	60	1	5	3.38	1.391
I use formative assessment to monitor learning and provide feedback.	60	1	5	3.55	1.227
I use summative assessment to determine learners' achievement of set learning outcomes in CBC	60	1	5	3.93	1.023

As shown in Table 4.2, teachers in public and private pre-schools reported using Competency-Based Assessment to evaluate learning outcomes within a narrow range, from 1.98 to 3.93 on average. The item with the lowest mean (1.98) was the direct application of CBA for learning outcomes, suggesting poor understanding or inconsistent practice. The highest mean (3.93) indicated greater comfort with summative methods, showing possible reliance on traditional practices. These findings align with Jebii (2020), who found that although teachers acknowledged the value of CBC, few had the necessary skills to fully implement it, especially at early levels.

The overall mean scores for teachers' use of CBA by school type were also determined, as shown in Table 4.3.

Table 4.3: Overall Mean Scores in Teachers use of Competency-Based Assessment by Type of School

	Type of School	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Use of CBA	Public	43	3.47	.795	.121
	Private	17	3.38	.939	.228

As shown in Table 4.3, the average use of Competency-Based Assessment by teachers was moderately higher in public pre-primary schools (3.47) compared to private ones (3.38).

To determine if this difference is significant, the following null hypothesis was stated:

1. **$H0_1$:** ***There is no significant difference between teachers in public and private pre-primary schools in their use of Competency-Based Assessment.***

To assess the divergence in CBA implementation between public and private pre-primary school instructors, a t-test was performed, with the findings presented in Table 4.4

Table 4.4: Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper
Use of CBA	Equal variances assumed	.691	.409	.345	58	.731	.083	.240	-.398 .563
	Equal variances not assumed			.321	25.581	.751	.083	.258	-.448 .614

A p-value of .731 indicates that the difference between public and private pre-schools' use of the CBA was not significant at 0.05, as shown in Table 4.4. The Null Hypothesis was thus accepted, while its alternative form was rejected. This finding implied that the type of school did not influence teachers' use of Competency-Based Assessment. This finding are supported by those from a study done in Malaysia by Damit, et al, (2021) which showed that teachers in public and private schools did not differ in levels of

delivering the curriculum. Teachers who had newly graduated and posted to schools could interpret curriculum designs effectively just like the long-serving teachers without recent training.

The study found that although CBA is being used in both public and private schools, its application is moderate and inconsistent, with teachers showing stronger reliance on summative than formative assessments. These findings are consistent with Abragan et al. (2022), who emphasized that teacher motivation and understanding are crucial in CBA implementation, yet many teachers remain unclear about how to fully execute CBA strategies.

Similarly, Damit et al. (2021) observed that teacher experience and recent training did not lead to major differences in curriculum delivery, suggesting that the school type may have limited impact on CBA use echoed by this study's lack of significant difference between public and private institutions. Conversely, findings contradict Okello (2022), who argued that private schools outperformed public schools in CBA use due to better resource allocation and training. This discrepancy may arise from differing contexts Okello studied primary schools, while this research focused on pre-primary settings. This study filled a literature gap by focusing on pre-primary schools, which have been underrepresented in CBA research. The finding that school type does not significantly affect CBA implementation in Nyeri County addresses inconsistencies in prior studies and suggests that individual teacher preparedness and understanding may matter more than institutional classification.

4.4 Relationship between Teachers' Motivation and Use of Competency-Based Assessment in Pre-Primary Schools

Additionally, the purpose of this study was to investigate how teachers' motivation and their use of Competency-Based Assessment differed between pre-primary schools in Nyeri County, Kenya. There was a combination of qualitative and quantitative approaches demonstrated under the following subheadings:

4.4.1 Qualitative Analysis: Relationship between Teachers' Motivation and Use of CBA

Findings were thematically analyzed, and presented in sub-themes as shown below:

Sub-theme 2: Training and Professional Development

In an interview, head teachers went ahead to elaborate how they recognized teachers for conducting competency-based assessment after unanimously agreed that teachers were motivated. The responses highlighted a significant gap in opportunities for teachers to receive training on CBA practices. Majority 15(75%) of the head teachers mentioned that while occasional workshops were conducted, these were insufficient and often lacked follow-up in various ways. For instance, one head teacher remarked, *"mmmm…Yes we sometimes conduct training, but it's not consistent."* (Female head teacher, school D).

The sporadic nature of training means teachers may not stay updated on best practices or feel competent in using CBA effectively. This inconsistency in professional development may foster a lack of motivation and confidence among teachers, which can lead to resistance against adopting CBA. Implementing a regular, structured professional development schedule could greatly enhance teachers' skills and motivation.

Sub-theme 3: Recognition and Incentives

Responses regarding the recognition of teachers for effectively implementing CBA revealed a concerning trend. Many head teachers acknowledged that recognition was largely informal, with one stating, *"We don't have a formal recognition system; but it is mostly verbal encouragement including praises and affirmation."* (Female head teacher, school D). This lack of structured acknowledgement emerged as a demotivating factor. Teachers felt undervalued, leading to low enthusiasm for innovative practices like CBA. These findings are in agreement with Maseko and Mabasa (2023), who emphasised the role of extrinsic motivators such as administrative recognition and awards in promoting teacher engagement with CBA. However, the absence of such mechanisms in Nyeri County represents a significant point of departure. While urban studies emphasise structured incentives, the rural context in Nyeri County lacks these motivations, reinforcing the conclusion that localised interventions are needed.

4.3.2 Quantitative Analysis

To validate the qualitative data through triangulation, the study also tested the second alternative hypothesis (Ha2):

Ha_2*: *Teachers' motivation is closely tied to the implementation of Competency-Based Assessment in pre-primary schools.

To gauge teachers' motivation levels, individual mean scores were calculated, with the results presented in Table 4.5.

Table 4.5: Individual Mean Scores in Teachers Motivation

	N	Min	Max	Mean	Std. Dev
The school trains teachers on setting, conducting, and using formative and summative assessments	60	1	5	1.80	.879
Schools provide teachers with adequate resources for conducting formative and Summative Assessments	60	1	4	1.72	.666
The school environment is conducive to conducting the competency-based assessment	60	1	4	1.60	.588
School workload allows competency-based assessment	60	1	5	2.02	.983
The school recognizes teachers for conducting competency-based assessments	60	1	5	2.03	1.057
The school involves many stakeholders in Competence-based Assessments.	60	1	4	1.97	.663

Table 4.5 shows that individual mean scores for teachers' motivation in using Competency-Based Assessment (CBA) ranged from 1.6 to 2.03 on a scale of 1-5 (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). This suggests that teachers' motivation to use CBA was very low.

The overall mean scores for teachers' motivation while employing CBA were also calculated, with the results presented in Table 4.6.

Table 4.6: Overall Mean Scores on Level of Teacher Motivation and Use of CBA

	N	Mean	Std. Deviation
Use of CBA	60	3.44	.831
Motivation	60	1.86	.749

Table 4.6 shows a mean score of 1.86 for teachers' motivation with a standard deviation of 0.749, indicating low motivation levels among pre-primary school teachers.

The null hypothesis was stated as:

2. ***$H0_2$: Teachers' motivation does not significantly impact the use of Competency-Based Assessment in pre-primary schools***

An examination of the link between teachers' enthusiasm and the implementation of Competency-Based Assessment in pre-primary settings was conducted, with the findings summarized in Table 4.7.

Table 4.7: Correlation between Teachers' Motivation and Use of CBA

		Use of CBA	Motivation
Use of CBA	Pearson Correlation	1	-.797**
	Sig. (2-tailed)		.000
	N	60	60
Motivation	Pearson Correlation	-.797**	1
	Sig. (2-tailed)	.000	
	N	60	60

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

The data presented in Table 4.7 reveals a powerful inverse relationship ($r = -0.797$, $p < 0.001$) between teachers' motivation and their implementation of Competency-Based Assessment. This robust, statistically significant finding led to the rejection of the null hypothesis and the acceptance of the alternative hypothesis.

This study revealed that pre-primary school teachers in Nyeri County generally exhibited low levels of motivation to use Competency-Based Assessment. Factors contributing to this included inadequate training, lack of structured recognition, poor resource availability, and minimal stakeholder support. These findings reinforce those by Njoroge (2021) and Thompson & Williams (2022), who found that both intrinsic and extrinsic motivators strongly influence curriculum implementation.

However, unlike studies conducted in well-resourced urban areas such as those by Kamau (2022) and Thompson & Williams (2022), this study focused on a rural setting, which exposed more acute challenges, including sporadic professional development and informal reward systems. The divergence underscores the need for context-specific interventions, especially in under-resourced counties.

While previous studies such as Masele (2020) downplayed extrinsic motivators, this study found a clear deficit in both intrinsic and extrinsic motivation among teachers in Nyeri. These differences highlight that resource limitations exacerbate motivational gaps in rural areas. This study fills a critical gap by jointly examining both motivational and structural barriers to CBA use providing a more holistic understanding compared to studies that addressed either motivation or resources separately. The findings confirmed

that teacher motivation plays a pivotal role in the effective use of Competency-Based Assessment. The study identified training, recognition, workload, and stakeholder involvement as central motivational factors that require systemic attention. These results suggest that any policy aiming to enhance CBA uptake must address both intrinsic and extrinsic motivators, especially in rural, under-resourced settings like Nyeri County.

4.5 Relationship between Availability of Resources and Use of Competency-Based Assessment in Pre-Primary Schools

The third objective sought to investigate the connection between resource supply and the application of Competency-Based Assessment in pre-primary institutions. This research employed a combined methodology, blending qualitative and quantitative data, as elaborated in the subsequent sections:

4.5.1 Qualitative Analysis: Availability of Resources and Use of CBA

Findings were thematically analyzed, and presented in sub-themes as shown below:

Sub-theme 4: Resource Availability

Responses concerning resource availability for assessments varied significantly among schools. Some head teachers reported having adequate resources, including assessment tools and learning materials, while others indicated severe shortages. One head teacher commented, "We have some resources, but not enough to fully support our assessment needs." (Male head teacher-school A, 2024). This discrepancy in resources may lead to unequal opportunities for students to be assessed comprehensively. The inconsistency in resource allocation highlights the need for schools to conduct regular assessments of their

resource needs and seek assistance from educational authorities to ensure that all schools are equipped to implement CBA effectively.

4.3.2 Quantitative Analysis

To validate the qualitative data through triangulation, the study also tested the third null hypothesis (Ha3):

H03*: There is no statistically significant relationship between the availability of resources and the use of Competency-Based Assessment (CBA) in pre-primary schools.*

Individual mean scores for the availability of resources were calculated, with the results presented in Table 4.8.

Table 4.8: Individual Mean Scores on Availability of Resources

	N	Min	Max	Mean	Std. Dev
The school has a policy on competence-based assessment	60	1	5	3.20	.953
There is a manual with procedure for monitoring and administration of the formative and summative assessment	60	1	5	2.43	1.170
There is adequate space for storing assessment materials	60	1	5	3.07	1.133
There are adequate funds for buying assessment materials, tools and equipment	60	1	4	1.83	.587
There are adequate curriculum designs	60	1	4	1.78	.555
There is Assessment guide book	60	1	2	1.63	.486
There are adequate computers for storing assessment reports.	60	1	4	1.50	.651
Overall mean scores					
Use of CBA	60			3.44	.831
Availability of resources	60			2.21	.559

According to Table 4.8, the individual mean scores for resource availability spanned a range from 1.50 to 3.20 on a 1-5 scale, suggesting the overall availability of resources was suboptimal. The findings in the table further indicates that resources in pre-primary schools were generally insufficient, with a mean score of 2.21 and a standard deviation of 0.559 for resource availability. In contrast, the mean score for the use of Competency-Based Assessment was higher at 3.44 with a standard deviation of 0.831.

Table 4.9 displays the results of a Pearson correlation analysis that further explored the connection between resource availability and teachers' implementation of classroom-based assessment in pre-primary schools.

Table 4.9: Correlation between Availability of Resources and Teachers' use of CBA

		Use of CBA	**Availability**
Use of CBA	Pearson Correlation	1	-.584**
	Sig. (2-tailed)		.000
	N	60	60
Availability	Pearson Correlation	-.584**	1
	Sig. (2-tailed)	.000	
	N	60	60

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

Table 4.9 shows that there is a statistically significant negative correlation between availability of resources and the use of CBA ($r = -0.584$, $p < 0.01$). The result suggests that as resource availability decreases, the use of CBA increases. This finding is counterintuitive but may reflect compensatory strategies where teachers rely more on manual assessments or improvisation in resource-limited environments. The study rejects hypothesis H03. There is a significant relationship between resource availability and use

of CBA, although the direction of this relationship (negative) points to an unexpected trend.

The results reveal that resource constraints are widespread across pre-primary schools in Nyeri County. Most schools lack assessment guides, digital tools, and adequate funding for assessment resources. Despite this, teachers continue to implement CBA, possibly using improvised methods or drawing on prior training and professional judgement. This finding both supports and deviates from earlier studies. For instance, Mokoena and Maluleke (2024) found that resource scarcity in South African rural schools limited CBA implementation. Similarly, Jelagat (2023) identified a strong link between poor resourcing and weak assessment practices in Kenyan schools. However, unlike these studies, the current findings suggest that some teachers in Nyeri continue to use CBA despite poor resource provision pointing to potential strengths in teacher resilience or informal resource strategies.

In contrast, Smith and Johnson (2021) reported that schools with better resources had higher CBA usage, particularly in urban U.S. settings. The difference here may stem from contextual differences in professional development, government support, or institutional motivation. The findings also differ from Osman A. (2023), who highlighted that the presence of ICT tools improved the implementation of CBA in Garissa, Kenya. The Nyeri County context, with lower ICT access (as indicated by a mean of 1.50 for computer availability), shows a different implementation environment. This study filled key gaps in previous research by using a mixed-method approach to triangulate

qualitative and quantitative data while demonstrating that teachers continue to use CBA even in low-resource environments, a perspective underexplored in earlier studies.

4.6 Challenges Experienced by Teachers While Using Competency-Based Assessment in Pre-Primary Schools

This study's fourth objective was to explore the obstacles teachers confront when utilizing Competency-Based Assessment in pre-primary settings. To achieve this, the researchers employed a blend of qualitative and quantitative methodologies, as outlined in the subsequent subsections:

4.5.1 Qualitative Analysis: Challenges Experienced by Teachers While Using CBA

Findings were thematically analyzed, and presented in sub-themes as shown below:

Sub-theme 5: Financial Support

Many head teachers voiced concerns about financial constraints that affect their ability to procure assessment materials. One of the participants mentioned, *"Funding is always a challenge; we have to prioritize essential needs over assessment tools."* (Male head teacher-school F, 2024). This lack of funding reduces access to diverse and appropriate assessment materials. Without adequate financial resources, teachers cannot fully implement CBA practices. These findings align with Mwangi and Wanjiru (2024), who observed that pre-primary schools in Nakuru County struggled with budget limitations for acquiring CBA resources. Creating a strong case for the importance of CBA and its benefits for students can help in garnering more support and resources. This approach could also involve reaching out to the private sector, seeking grants, or initiating community-driven fundraising efforts to bridge the resource gap.

Sub-theme 6: Low Stakeholder Involvement

Responses about stakeholder involvement revealed a trend of limited engagement from parents and the community. One head teacher noted, *"We occasionally involve parents, but not as much as we should."* (Male head teacher-school J, 2024). This absence of engagement may cause a gap between the school and home settings, potentially impacting students' learning experiences. Insufficient stakeholder involvement may limit the effectiveness of CBA, as collaborative efforts are crucial for holistic assessment practices. Limited stakeholder involvement creates a disconnect between school and home environments, impacting the continuity of learning and the success of CBA. Kamya and Okello (2022) similarly found that inadequate parental participation in Uganda hindered effective assessment practices.

***Sub-theme 7: Unclear* Policy and Guidelines**

The responses regarding policy support for CBA were mixed. Some head teachers reported having policies in place, while others mentioned a lack of clear guidelines. One head teacher mentioned, *"We have a policy, but it's not well implemented."* (Male head teacher-school K, 2024). This inconsistency results in confusion and irregular application of assessment strategies. These findings resonate with Kubai (2023), who highlighted that poorly defined CBC policies contributed to low fidelity in CBA implementation across Kenya.

4.3.2 Quantitative Analysis

To validate the qualitative data through triangulation, this study further sought to test the fourth alternative hypothesis (Ha4) stated as:

Table 4.10: Challenges Experienced By Teachers While Using Competency-Based Assessment in Pre-Primary Schools

Challenge	F	%
Differences in professional development	56	93.3
Inadequate training on CBA	60	100
Inadequate teaching and learning resources	51	85
Lack of infrastructural capacity of the schools	59	93.3
Teachers' lack of adequate knowledge on teaching and assessment methods	59	93.3
Lack of in-service training of teachers on CBA	60	100
Poor quality of instructional materials	58	96.7

From Table 4.11, all the teachers who listed the challenges ranged from 85-100% indicating a strong agreement that indeed there were challenges experienced by teachers while using Competency-Based Assessment in pre-primary schools. The primary obstacles encountered included inadequate preparation in cost-benefit analysis, limited on-going professional development for educators, and teachers' deficient understanding of instructional and evaluation approaches. The results indicated that all teachers lacked adequate training and on-going professional development in CBA. This observation concurs with Nsengimana (2020), who found that despite initial training, teachers in Rwanda reverted to traditional assessments due to lack of continuous support. Likewise,

Nthiga and Wambiri (2023) revealed that inconsistent in-service training in Juja, Kenya, hindered CBC execution.

Unlike Nsengimana's study, which focused only on Rwanda, the current study offers insights specific to Kenya and addresses a local research gap by highlighting similar issues in pre-primary schools in Nyeri County. Eighty-five cent of teachers reported inadequate teaching materials. Lack of ICT infrastructure and overcrowded classrooms were also noted, confirming earlier findings by Ng'andu (2022) in Tanzania and Mwangi and Wanjiru (2024) in Nakuru, Kenya. However, this study differs from previous research by specifically focussing on pre-primary schools and comparing the public and private sectors.

Qualitative data indicated mixed experiences with policy clarity. Some schools had policies that were not enforced, creating confusion. This supports Kubai (2023) and Obuhatsa (2020), who both emphasise the absence of coherent CBC policies and structures. Unlike those studies, which mainly covered broader CBC issues, the current study narrows the lens to assessment-specific concerns in pre-primary settings. Parental engagement was minimal, consistent with Kamya and Okello (2022) and Mwangi and Wanjiru (2024). However, this study adds value by suggesting structured outreach initiatives such as parent-CBA workshops to bridge this gap.

CHAPTER FIVE

SUMMARY AND CONCLUSION

5.1 Introduction

This chapter summarizes the key findings, conclusions, and recommendations of the study, which examined how school-level factors influence the implementation of Competency-Based Assessment in pre-primary institutions across Nyeri County, Kenya.

5.2 Summary of Findings

This study aimed to examine school-related factors influencing the use of Competency-Based Assessment (CBA) in pre-primary schools in Nyeri County, Kenya. The study's four specific objectives summarise the findings below. For the first objective, which looked at how much CBA is used in public and private pre-primary schools, the study found that teachers in both types of schools used CBA practices, but not consistently. The mean score for the use of CBA was slightly higher in public schools (3.47) than in private schools (3.38). However, the difference in mean scores was minimal (0.083) and statistically insignificant, with a p-value of 0.731. This result indicates that there was no meaningful difference in the use of CBA between teachers in public and private pre-primary schools.

For the second objective, which investigated the relationship between teachers' motivation and the use of CBA, the findings showed that teachers generally had low motivation to implement it. The mean score for teacher motivation was 1.86, with a standard deviation of 0.749. Additionally, the study found a strong and statistically

significant negative correlation between teacher motivation and use of CBA, with a correlation coefficient of -0.797 and a p-value of 0.000.

For the third goal, which looked at how resource availability affects the use of CBA, the study showed that pre-primary schools usually did not have enough resources. The mean score for resource availability was 2.21. A strong and statistically significant negative correlation was also found between resource availability and use of CBA, with a correlation coefficient of -0.584 and a p-value of 0.000.

Lastly, in relation to the fourth objective, which sought to analyse the challenges faced by teachers in implementing CBA, the study found that teachers encountered a range of significant challenges. These included inadequate training on CBA (100%), lack of in-service professional development (100%), poor quality of instructional materials (96.7%), lack of sufficient infrastructural capacity (93.3%), and limited availability of teaching and learning resources (85%). Qualitative data further highlighted additional barriers, such as limited financial support, unclear policies and guidelines, and the low involvement of stakeholders such as parents and the community.

5.3 Conclusion

This study examined school-related factors influencing the use of Competency-Based Assessment (CBA) in pre-primary schools in Nyeri County, Kenya. The study draws conclusions in accordance with each specific objective. It can be concluded that the type of school, whether public or private, did not significantly influence the extent of CBA usage among teachers. Although slight variations in mean scores were observed, they

were not statistically significant, suggesting that CBA implementation is relatively consistent across school types.

The study concludes that teacher motivation has a significant impact on the implementation of CBA. A strong negative correlation indicates that low motivation levels among teachers are associated with limited use of CBA practices, emphasising the need for strategies to enhance teacher motivation to improve assessment practices. Such goals can be achieved through professional development opportunities, collaborative planning sessions, and recognition of teachers' efforts in adopting innovative assessment methods. By fostering a supportive environment that prioritises motivation, schools can effectively enhance CBA implementation, ultimately benefiting student learning outcomes.

The study concludes that the lack of sufficient resources significantly impedes the implementation of CBA in pre-primary schools. Adequate teaching and learning materials, infrastructure, and support systems are essential for the effective application of competency-based assessment. Furthermore, ongoing professional development for educators is crucial, as it equips them with the skills needed to effectively integrate CBA into their teaching practices. Schools must prioritise investment in these resources to ensure a sustainable and impactful assessment framework that ultimately promotes holistic student development.

The study concludes that numerous challenges impede the implementation of CBA. These include lack of training, inadequate professional development, insufficient

instructional materials, and limited infrastructure. Addressing these barriers through targeted training and improved resource allocation is necessary to support effective CBA use in pre-primary education.

5.4 Recommendations for the Study

Based on the findings and conclusions of the study, several recommendations are proposed for various education stakeholders to improve the implementation of Competency-Based Assessment (CBA) in pre-primary schools in Nyeri County, Kenya.

- Firstly, teachers should regularly participate in structured in-service training programmes to enhance their knowledge and skills in competency-based assessment. These programmes should be organised by the Teachers Service Commission (TSC), the Ministry of Education, and the Kenya Institute of Curriculum Development (KICD). The aim is to equip teachers with up-to-date assessment strategies aligned with the Competency-Based Curriculum (CBC). These training sessions can be delivered through workshops, seminars, and school-based professional development sessions. Additionally, we encourage teachers to improvise using locally available materials to create effective teaching and assessment tools. This approach will help bridge the resource gaps that were evident in many schools and improve the overall quality of assessments.
- Secondly, school management should play an active role in supporting teachers by providing continuous professional support and mentorship. Head teachers and school boards should establish peer support systems and encourage collaborative learning among teachers. Regular internal training sessions and classroom observations followed by feedback will help teachers refine their assessment skills. School

managers should also ensure that basic teaching and assessment tools are available in classrooms. This can be achieved through proper resource planning, engaging parents, and partnering with local sponsors to mobilise necessary materials.

- At the county and national government levels, several policy and operational measures are recommended. There is a need for increased and timely funding to support pre-primary education. The Ministry of Education, in collaboration with county governments, should ensure that capitation funds are disbursed promptly and are sufficient to address infrastructure needs, learning materials, and teacher recruitment. A supportive work environment should also be established to enhance teacher motivation. This includes improving working conditions, reducing teacher–pupil ratios, providing housing, and recognising exceptional teaching efforts. Additionally, the government, together with curriculum developers, should organise community sensitisation programmes to educate parents about the goals of CBA and the role they play in supporting its implementation.
- The Kenya Institute of Curriculum Development (KICD) is advised to improve the content and structure of teacher training on CBA by making it more practical and relevant to classroom realities. Training modules should incorporate real-life classroom examples, assessment rubrics, and the use of Information and Communication Technology (ICT). Furthermore, KICD should actively involve teachers in the curriculum review and development process. By gathering teacher feedback through regional forums, surveys, and workshops, curriculum changes will be better aligned with the realities of classroom implementation, thereby increasing teacher ownership and reducing resistance to change.

- The Teachers Service Commission should institutionalise mandatory CBA training for all teachers every three years. This will ensure continuous professional growth and enable teachers to stay current with new assessment trends and curriculum updates. In addition, the TSC should recognise and reward teachers who demonstrate excellence in the implementation of CBA. Such recognition can be done through awards, public commendations, and access to professional development scholarships. Such recognition will serve as a motivation for other teachers to embrace and effectively implement CBA practices.

5.5 Suggestions for Further Research

i. The study was confined to Nyeri County, Kenya, so its results may not apply to other localities. Replicating this research in diverse regions is advised to identify individual and home-based factors shaping the use of Competency-Based Assessment and implementation of Competency-Based Curriculum in pre-schools.

ii. Since this study focused on pre-primary pupils, further research is recommended at both primary and secondary school levels to gain a comprehensive understanding of the challenges and to inform policy makers on how these can be addressed.

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APPENDICES

APPENDIX I: QUESTIONNAIRE FOR PRE-PRIMARY SCHOOL TEACHERS

I am Jane Purity Warui, a Master's student at Kenyatta University. I am undertaking a study on the School Features Influencing Use of Competency-Based Assessment in Pre-Primary Schools in Nyeri County, Kenya. I kindly ask you to answer the questions in this questionnaire to the best of your knowledge by selecting choices or filling in the blank spaces. Please respond honestly, as your feedback will be used solely for academic purposes.

Section A: Demographic Information

1. Type of school

Public { } Private {}

2. Gender

Male { } Female { }

4. What is your highest Professional training?

ii. Certificate { }

iii. Diploma { }

v. B. Ed { }

vi. M. Ed { }

vii. Others _____

5. Please tick your class enrolment bracket appropriately

10- 20 { } 21-30 { } 31-40 { } 41-50 { } 51-60 { } 61+ { }

Section B: Use of Competence-Based Assessment

The information in this segment refers to competence-based assessment. Use the provided scale to indicate your agreement with the following assertions:1= Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5= Strongly Agree

Statement	**1**	**2**	**3**	**4**	**5**
I use Competence Based Assessment to measure learning outcomes in CBC.					
I use assessment methods testing competencies and not just academic knowledge and skills.					
I use a variety of ways for learners to demonstrate that they have learned.					
I provide continuous feedback to learners and parents.					
I use a range of assessment methods to measure learners' competencies.					
I provide opportunities for special-needs learners to demonstrate mastery of their learning					
I use formative assessment to monitor learning and provide feedback.					
I use summative assessment to determine learners' achievement of set learning outcomes in CBC					

Section C: Motivation of Teachers to Competence-based Assessment

The information in this segment refers to the motivation of teachers to competence-based assessment. Use the key provided to show your concurrence with the following assertions. 1= Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5= Strongly Agree

Statement	1	2	3	4	5
School trains teachers on setting, conducting, and using formative and summative assessments					
School trains teachers on setting, conducting, and using formative and summative					
Schools provide teachers with adequate resources for conducting formative and Summative Assessments					
The school environment is conducive to conducting the competency-based assessment					
School workload allows competency-based assessment.					
The school recognizes teachers for conducting competency-based assessments					
The school involves many stakeholders in Competence-based Assessments.					

Section D: Availability of resources for Competency-based Assessment

The information in this segment refers to availability of resources for competency-based assessment. Use the key provided to show Use the key provided to show your concurrence with the following assertions. 1= Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5= Strongly Agree

Statement	1	2	3	4	5
The school has a policy on competence-based assessment					
There is a manual with procedure for monitoring and administration of the formative and summative assessment					
There is adequate space for storing assessment materials					
There are adequate funds for buying assessment materials, tools and equipment					
There are adequate curriculum designs					
There is Assessment guide book					
There are adequate computers for storing assessment reports.					

Section E: Challenges faced in using competence based assessment

The information in this segment refers to challenges faced in using competence based assessment. Use the key provided to show Use the key provided to show your concurrence with the following assertions. 1= Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5= Strongly Agree

Statement	1	2	3	4	5
Variations in professional development					
Insufficient training on CBA					
Lack of teaching and learning resources					
Inadequate school infrastructure					
Teachers' insufficient knowledge of teaching and assessment methods					
No in-service training for teachers on CBA					
Low quality of instructional materials					

APPENDIX II: INTERVIEW SCHEDULE FOR HEAD TEACHERS

I am Jane Purity Warui, a Masters' student at Kenyatta University. I am conducting a study examining School Features that Influence the Use of Competency-Based Assessment in Pre-Primary Schools in Nyeri County, Kenya. I kindly request that you answer the interview questions to the best of your knowledge. Please respond honestly, as the provided responses will be used solely for academic purposes.

1. What do you understand by Competency based assessment?

……

……

2. Does your school train teachers on how to set, conduct and use formative and summative assessments?

……

……

3. Do you provide teachers with adequate resources for conducting formative and summative assessment?

……

……

4. Do you recognize teachers for conducting competency-based assessment?

……

……

5. Does your school involve stakeholders in Competence-based Assessment?

……

……

6. Do you have a policy on competence-based assessment?

   ……

   ……

7. Is there a manual with procedure for monitoring and administration of formative and summative assessment?

   ……

   ……

8. Do you have adequate funds for buying assessment materials, tools and equipment?

   ……

   ……

APPENDIX III: APPROVAL FROM GRADUATE SCHOOL

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

Internal Memo

FROM: Executive Dean, Graduate School

DATE: 10th August, 2023

TO: Jane Purity Warui
C/o Early Childhood Studies &
Special Needs Education Dept.

REF: E53/OL/24621/2011

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

We acknowledge receipt of your revised Research Proposal as per our recommendations raised by the Graduate School Board of 12th July, 2023 entitled "School Features Influencing use of Competency-Based Assessment in Pre-Primary Schools in Nyeri County, Kenya".

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The Forms are available at the University's Website under Graduate School webpage downloads.

Also, please ensure that you publish article(s) from your project before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.

Thank you.

ELIJAH MUTUA
FOR: EXECUTIVE DEAN, GRADUATE SCHOOL

C.c. Chairman, Department of Early Childhood Studies & Special Needs Education

Supervisors:

1. Dr. Nyakwara Begi
   C/o Department of Early Childhood Studies &
   Special Needs Education
   Kenyatta University

EM/lnn

APPENDIX IV: RESEARCH AUTHORIZATION FROM GRADUATE SCHOOL

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: E53/OL/24621/2011

DATE: 10th August, 2023

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR JANE PURITY WARUI – REG. NO. E53/OL/24621/2011.

I write to introduce Jane Purity Warui who is a Postgraduate Student of this University. The student is registered for M.Ed degree programme in the Department of Early Childhood Studies & Special Needs Education.

Jane intends to conduct research for a M.Ed Project Proposal entitled, "School Features Influencing use of Competency-Based Assessment in Pre-Primary Schools in Nyeri County, Kenya".

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
EXECUTIVE DEAN, GRADUATE SCHOOL

EM/lnn

APPENDIX V: NACOSTI PERMIT

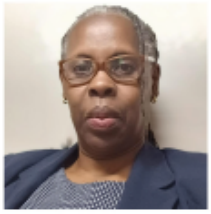
REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 118785

Date of Issue: 11/September/2023

RESEARCH LICENSE



This is to Certify that Ms., JANE PURITY WAMBURA WARUI of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nyeri on the topic: SCHOOL FEATURES INFLUENCING USE OF COMPETENCY-BASED ASSESSMENT IN PRE-PRIMARY SCHOOLS IN MATHIRA EAST, NYERI COUNTY. for the period ending : 11/September/2024.

License No: NACOSTI/P/23/20231

118785

Applicant Identification Number

Director General

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Verification QR Code

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See overleaf for conditions

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013 (Rev. 2014)
Legal Notice No. 108: The Science, Technology and Innovation (Research Licensing) Regulations, 2014

The National Commission for Science, Technology and Innovation, hereafter referred to as the Commission, was the established under the Science, Technology and Innovation Act 2013 (Revised 2014) herein after referred to as the Act. The objective of the Commission shall be to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto.

CONDITIONS OF THE RESEARCH LICENSE

1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way;
    i. Endanger national security
    ii. Adversely affect the lives of Kenyans
    iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
    iv. Result in exploitation of intellectual property rights of communities in Kenya
    v. Adversely affect the environment
    vi. Adversely affect the rights of communities
    vii. Endanger public safety and national cohesion
    viii. Plagiarize someone else's work
3. The License is valid for the proposed research, location and specified period.
4. The license any rights thereunder are non-transferable
5. The Commission reserves the right to cancel the research at any time during the research period if in the opinion of the Commission the research is not implemented in conformity with the provisions of the Act or any other written law.
6. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research.
7. Excavation, filming, movement, and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
8. The License does not give authority to transfer research materials.
9. The Commission may monitor and evaluate the licensed research project for the purpose of assessing and evaluating compliance with the conditions of the License.
10. The Licensee shall submit one hard copy, and upload a soft copy of their final report (thesis) onto a platform designated by the Commission within one year of completion of the research.
11. The Commission reserves the right to modify the conditions of the License including cancellation without prior notice.
12. Research, findings and information regarding research systems shall be stored or disseminated, utilized or applied in such a manner as may be prescribed by the Commission from time to time.
13. The Licensee shall disclose to the Commission, the relevant Institutional Scientific and Ethical Review Committee, and the relevant national agencies any inventions and discoveries that are of National strategic importance.
14. The Commission shall have powers to acquire from any person the right in, or to, any scientific innovation, invention or patent of strategic importance to the country.
15. Relevant Institutional Scientific and Ethical Review Committee shall monitor and evaluate the research periodically, and make a report of its findings to the Commission for necessary action.

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