

**RELATIONSHIP BETWEEN TEACHER PREPAREDNESS AND
IMPLEMENTATION OF THE COMPETENCY BASED
CURRICULUM IN PUBLIC PRE-PRIMARY SCHOOLS IN
NAIROBI CITY COUNTY, KENYA**

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**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF
DOCTOR OF PHILOSOPHY (EARLY CHILDHOOD STUDIES)
IN THE SCHOOL OF EDUCATION, KENYATTA UNIVERSITY**

NOVEMBER, 2021

DECLARATION

I declare that this thesis is my original work and has not been presented in any other university/institution for consideration of any certification. This research thesis has been complemented by referenced sources duly acknowledged. Where text, data (including spoken words), graphics, pictures or tables have been borrowed from other sources, including the internet, these are specifically accredited and references cited using current APA system and in accordance with anti-plagiarism regulations.

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DEDICATION

This thesis is dedicated to my lovely family for their moral support and prayers through my entire studies. Gratitude goes to my dear parents, extended family and friends for their unconditional love, understanding, endurance and support which has empowered towards my success. Thank you for believing in me.

ACKNOWLEDGEMENT

My most sincere and deepest gratitude to the Almighty God for his blessings, for the gift of life and good health. He has guided me throughout this academic journey; I don't take it for granted. I would like to pay my special regards to my supervisors Dr. Gladwell Wambiri and Dr. Maureen Mweru for their undying efforts and imperative ideas towards this research work, without them, I may have not made this tread. Further, I must thank all the head teachers, pre-primary school managers and pre-primary school teachers who participated in this study. Finally, my special regards to my family members whose assistance was a milestone in the completion of this work. God bless you all.

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LIST OF ABBREVIATIONS AND ACRONYMS

CBC	Competency Based Curriculum
CBEF	Competency Based Education Framework
CSO	Curriculum Support officers
ECD	Early Childhood Development
ICT	Information Communication and Technology
KICD	Kenya Institute of Curriculum Development
KNUT	Kenya National Union of Teachers
MOE	Ministry of Education
NACOSTI	National Commission for Science and Technology
PCIs	Pertinent and Contemporary Issues
PP1	Pre-Primary 1
PP2	Pre-Primary 2
UNESCO	United Nations Educational, Scientific and Cultural Organization

ABSTRACT

Globalization and demand for twenty first century skills have led countries to adapt Competency Based Curriculum (CBC). Kenya embarked on curriculum reforms from content based to CBC in 2018. Studies have reported minimal use of CBC teaching-learning approaches in pre-primary schools in Nairobi City County. Teachers are the key implementers of the Curriculum, yet their preparedness to implement the Curriculum in public pre-primary schools remains unknown. The study was guided by four specific objectives which include: to establish the relationship between pre-primary school teachers' extent of training in CBC and their ability to implement the CBC, to determine the relationship between pre-primary school teachers' perceptions towards CBC and their ability to implement the CBC, to establish the relationship between teacher's technological skills and their ability to implement the CBC and to identify challenges teachers face in implementation of the CBC in Nairobi City County public pre-primary schools. The study was informed by the Concern-Based Adoption Model by Hall, Hord and Rutherford (2006). The study targeted a population of 900 comprising of 450 pre-primary school teachers, 225 pre-primary school managers and 225 head teachers in all the 225 public pre-primary schools in Nairobi City County. Twenty percent of the target population was sampled to participate in the study; therefore, the study had a sample size of 180, which comprised of 45 head teachers, 45 pre-primary school managers and 90 pre-primary school teachers. Questionnaire, interview schedule, observation checklist and a document analysis guide were used to collect data. Pilot study was conducted in two pre-primary schools in the County, validity of the research instruments was determined through expert judgment whereas reliability of the questionnaires was determined through split-half method and a Cronbach's alpha coefficient of 0.799 was obtained. Qualitative data was analyzed thematically whereas quantitative data was summarized using percentages and frequencies and Chi-square test was used to test the hypotheses. This was facilitated by the Statistical Package for Social Sciences (SPSS) Version 21. Findings showed that majority (65.9%) of the teachers had not received any training on CBC, whereas 34.1% of the teachers were trained. The study established a significant relationship between the teachers' extent of training in CBC and their ability to implement the curriculum with a significance value of $p=0.000<0.05$. In addition, it was established that there was no significant relationship between teachers' perceptions about CBC and their ability to implement the Curriculum with a significance value of $p=0.603>0.05$. In addition, the study established that there was a significant relationship between teachers' technological skills and their ability to implement the Curriculum with a significance value of $p=0.001<0.05$. Further, it was established that the teachers faced a lot of challenges which hindered effective implementation of the curriculum. The study concluded that the teachers were not adequately prepared to implement the Curriculum. Thus, recommended that the Nairobi City County Government should adequately create a regular in-service training program to equip teachers with necessary knowledge and skills that will help them implement the curriculum effectively. Further, the County Government should construct more classrooms, employ more teachers and provide adequate CBC teaching-learning materials to cater for the high enrollment in public pre-primary schools. Finally, the County government in collaboration with the schools should sensitize parents to help them understand what CBC is all about and their role in the implementation process.

CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.0 Introduction

This chapter presents the background to the study, statement of the problem, purpose of the study, the objectives of the study and hypotheses. It further outlines the significance of the study, limitations and de-limitations, and assumptions of the study. Finally, the chapter describes the theoretical and conceptual framework as well as the operational definition of key terms.

1.1 Background to the Study

Curriculum refers to a planned sequence of knowledge and skills which pupils are expected to learn in a school or in a specific course (UNESCO, 2015). For a society to achieve its educational goals, it needs a curriculum that is functional and relevant to its needs. Hence, revision and reforms of curricula are inevitable from time to time, in order to meet the changing times and demands. Therefore, countries have changed their curricula from content based to competency-based teaching-learning approaches (UNESCO, 2015). The change has been necessitated by globalization of labour market and demand for acquisition of the twenty first century skills. This implies that the competency-based teaching-learning approaches have received a good deal of attention and support globally.

Competency Based Curriculum (CBC) emphasizes on what learners are expected to do, rather than simply focusing on what they are expected to know (Jeng'ere, 2017). According to IBE-UNESCO (2017), CBC is a vehicle through which a country can empower its citizens with skills, knowledge and values that will help them fit in the

global village which is characterized by advancing technology. Further, IBE-UNESCO (2017) explains that CBC enables learners to perform practically and measurably, using the skills acquired through learner-centered pedagogy. As a result, many countries have carried out reforms in curricula in connection with the concepts of key competences and learning outcomes. This implies that implementation of CBC in learning institutions will enable learners to acquire competencies which will make them be productive members in society.

The idea of competency-based education was first introduced in the United States of America (USA) in 1960s (Sullivan & Bruce, 2014). According to Sanchez and Romero (2015), the curriculum reform began in teacher education whereby the US department of Education aligned the learning processes in the training institutions with CBC teaching-learning approaches. The curriculum emphasized on discernible competencies which students should acquire and apply in real life situations. A study conducted by Fein (2015) reported that in the 1970s, competency-based approach was implemented in other professional education programs in the USA.

Since then, competency-based learning approaches have been developed and implemented in a range of professional areas and learning institutions in the USA. For instance, it was reported by Fein (2015) that more than 600 USA colleges had designed and implemented Competence Based Education (CBE) programs, and the number of learning institutions implementing CBC teaching-learning approaches is steadily increasing as the US Department of Education continues to approve more CBE programs for federal financial aid. According to Sanchez and Romero (2015), competency-based teaching-learning approaches have influenced the structure and

delivery of formal education and training programs and have enhanced production of skilled workers in the US. This denotes that implementation of competency-based teaching-learning approaches in learning institutions can enhance production of skilled and competitive members in the society.

In Australia, considerable efforts were expended in 1990s to implement CBC in Australian schools, TVET programs and in higher learning institutions (Obwoye, 2016). In addition, Obwoye found out that at the core of the curriculum reform was the desire to move away from a content-based curriculum approach to one based on the attainment of competencies. According to the Australian National Centre for Vocational Education Research (2014), competence-based training is geared towards the attainment and demonstration of skills to meet industry-specified standards and to upsurge Australia's competitiveness in the job market.

According to Obwoye (2016), the Competency based training in Australia has enhanced production of technical, adaptable and innovative workers, who have contributed to the improvement of Australia's productivity and international competitiveness. This implies that competency-based education and training can empower the global community with skilled and competent individuals who will promote economic development of countries.

Rwanda is one of the countries in the region which has implemented CBC and has made significant progress in implementing the curriculum as reported by Mbarushimana and Kuboja (2016). The Curriculum was introduced in primary schools and teachers' training colleges in 2016 (Rwanda Education Board, 2017), to replace teacher centered approaches and passive learning with learner centered

approaches. According to Ndiokubwayo, Habiyaremye and Rukundo (2019), introduction of CBC in Rwanda was done to enable the country produce Rwandan citizens who are skilled and competent. On the same breath, Mugabo, Ozawa and Nkundabakura (2021), explained that the paradigm shift in Rwanda was aimed at equipping learners with knowledge, skills and values to make them relevant and competitive in society. To enhance effective implementation of the curriculum in Rwandan schools, Ndayambaje (2018) reported that all primary school teachers had been taken through regular intensive in-service training on how to implement the curriculum.

However, according to Ndayambaje (2018), the curriculum has not been effectively implemented in some primary schools in Rwanda due to resistance to the change by some teachers. It was reported that the teachers who were not willing to implement the curriculum perceived that CBC was difficult to implement compared to the content-based curriculum. Based on their perception, they kept using the old methods of teaching and assessment. To address the issue of resistance to the change, Ndiokubwayo, Nyirigira, Murasira and Munyensanga (2021) explained that the Rwanda Education Board was working hard to change teachers' perceptions to the CBC through continual in-service training. From this report, it is evident that teachers' perception can hinder implementation of the new teaching-learning approaches hence, the need for this study to establish pre-primary school teachers' perceptions towards the CBC in Kenya.

Tanzania, which is one of the countries in East Africa, introduced CBC in its basic education in 2005 (Muneja, 2015). According to Makunja (2016), the curriculum

changed the orientation of education from rote memorization to knowledge and skill acquisition, which is very instrumental. This was aimed at developing an education system that could produce learners who are amply equipped to competently solve the developmental challenges facing the nation. Considered as panacea to the problem of graduate employability in Tanzania, Makunja (2016) highlighted that the Ministry of Education and Culture urged citizens to treat the curriculum as a strategic agent for mindset transformation and for the creation of a learned nation.

Despite the national roll out of the curriculum in Tanzanians schools in 2005, studies show that the curriculum has not been effectively implemented in most of her schools (Komba & Mwandaji, 2015). According to Hipolite (2019), teachers lacked adequate knowledge on how to integrate the aspects of the new curriculum in instruction. Teachers being the key players in implementing the curriculum, lack of their preparedness were identified as a major challenge which impeded effective implementation of CBC in Tanzania. The report from Tanzania implies that lack of constant training of teachers to equip them with necessary knowledge and skills on the new curriculum can deter successful curriculum implementation in schools. Therefore, it was important for this study to establish the extent to which pre-primary school teachers in Kenya have been trained to implement CBC.

Kenya launched the CBC in January, 2018. This was done with the aim of shifting from a heavily loaded 8.4.4 curriculum, which is exam oriented to an education system that would, among other factors ensure that learners acquire competencies and skills to meet human resource aspirations of Kenya's Vision 2030 blueprint for development (KICD, 2016). Change from content based to CBC requires change in

the orientation of the instruction process, from rote memorization of content to acquisition of relevant skills and competencies (Jeng'ere, 2017), which calls for the use of learner-centered activity-based pedagogy. Therefore, the change in pedagogy necessitates training of teachers to help them understand the paradigm shift so that they adopt pedagogical approaches that can help them implement the Curriculum effectively.

To meet the needs of the Curriculum, teachers are expected to deliver lessons in the presence of reflective lesson plans that are tailored to learners' needs and abilities (KICD, 2017). Therefore, the changes require conscious efforts by teachers to integrate the various aspects of CBC. According to Jeng'ere (2017), teachers are also expected to design effective learning activities geared towards the development of the specified competencies, while learners are expected to actively participate in the learning process through exploration and experience. This means that teachers should be equipped with skills and knowledge on how to prepare CBC lessons plans, for them to have the ability to engage learners in learning activities which will help them acquire skills and competencies such as: communication and collaboration, critical thinking and problem solving, creativity and imagination, learning to learn, self-efficacy and digital literacy.

In addition, the curriculum emphasizes on the importance of integrating digital literacy in learning (KICD, 2017). Therefore, teachers are expected to help learners acquire cognitive and technical skills in using information and communication technologies to find, evaluate, create, and communicate information. This means that teachers should have adequate technological skills for them to be able to infuse

digital literacy in learning. Despite the documented significant role of technology in pre-primary schools, it is not known whether pre-primary school teachers in public pre-primary schools have the ability to integrate technology in CBC teaching-learning.

Further, the Curriculum emphasizes on formative assessment, which will enable teachers establish learners' abilities and understanding of concepts while learning is in progress (KICD, 2017). Teachers are expected to use rubrics for assessments that will be helping them gauge the learners' abilities to understand and perform tasks. Assessment using rubrics will also help teachers obtain evidence of a learner acquiring specific competencies in various learning activities (Jengere, 2017). Therefore, teachers are required to change from norm-referenced to criterion referenced judgment of learners' abilities and competencies as a measure of their progress in school (Waweru, 2018). It is therefore evident that the changes in the Curriculum call for preparing of teachers to get into terms with the paradigm shift. Therefore, they need to go through consistent training on how to assess learners' abilities in various learning areas.

According to a study by the Kenya National Union of Teachers (KNUT) (2019), implementation of CBC remains a challenge in most pre-primary schools in all the 47 Counties in Kenya, whereby Nairobi City County was listed among the counties experiencing difficulties in implementing the Curriculum. The study elucidated that there is minimal use of competency-based teaching-learning approaches in majority of the schools in the Counties due to lack of adequate training of teachers on how to implement the Curriculum. However, the report by KNUT does not clearly show the

extent to which the pre-primary school teachers have been trained in the Counties. In addition, the study did not delve to establish how pre-primary school teachers perceive CBC and their technological skills which are important aspects that can influence teachers' ability in implementing the Curriculum. Therefore, this study purposed to address the gaps by establishing the extent to which pre-primary school teachers have been trained to implement the CBC, their skills in technology and how they perceive CBC, in public pre-primary schools in Nairobi City County, Kenya.

1.2. Statement of the Problem

Implementation of CBC in schools is expected to enable learners to acquire competencies, skills and values which will make them be productive members in the society. As stated in the background to the study it has been reported that there is minimal use of competency-based approaches in pre-primary grades in Nairobi City County. Failure to implement the CBC in schools may hinder learners from acquiring values, skills and competencies and this might negatively affect their personal development and the social-economic growth of the Country. The Curriculum reform calls for changes in instruction process, from rote memorization of content, to acquisition of relevant skills and competencies. This calls for use of learner-centered activity-based pedagogy in instruction. Teachers are the core implementers of the curriculum. The change in pedagogy necessitates training of the teachers to help them understand the paradigm shift, for them to be able to adopt pedagogical approaches that meet the needs of the curriculum.

However, it remains unknown whether the teachers in public pre-primary schools in Nairobi City County are prepared to implement the CBC. Therefore, the study

purposed to fill the gap by establishing the extent to which pre-primary school teachers in public pre-primary schools have been trained to implement CBC, how they perceive the Curriculum and their technological skills.

1.2.1 Purpose of the Study

The study purposed to establish the relationship between: teachers' extent of training and implementation of the CBC, teacher's technological skills and implementation of the CBC and teachers' perceptions towards CBC and implementation of Curriculum. Further, the study purposed to establish the challenges teachers face in implementation of the CBC.

1.2.2 Objectives of the Study

The study was guided by the following specific objectives;

- i. To establish the relationship between pre-primary school teachers' extent of training in CBC and their ability to implement CBC in Nairobi City County public pre-primary schools
- ii. To determine the relationship between pre-primary school teachers' perceptions of CBC and their ability to implement CBC in Nairobi City County public pre-primary schools
- iii. To establish the relationship between pre-primary school teachers' technological skills and their ability to implement CBC in Nairobi City County public pre-primary schools
- iv. To identify challenges pre-primary school teachers, face in implementation of CBC in Nairobi City County public pre-primary schools

1.2.3 Research Hypotheses

The following null hypotheses guided the study;

H₀₁ There is no relationship between pre-primary school teachers' extent of training in CBC and their ability to implement the CBC in Nairobi City County public pre-primary schools.

H₀₂ There is no relationship between pre-primary school teachers' perceptions on CBC and their ability to implement the CBC in Nairobi City County public pre-primary schools

H₀₃ There is no relationship between pre-primary school teachers' technological skills and their ability to implement the CBC in Nairobi City County public pre-primary schools

1.2.4 Research Question

The study was guided by the following research question;

What challenges are teachers facing in implementation of CBC?

1.3 Significance of the Study

This study may inform on preparedness of pre-primary school teachers to adopt and implement the CBC in public pre-primary schools. From the study findings and recommendations, the Government may make changes that may enhance implementation of the curriculum. The study findings may identify various gaps and

deficits which may be addressed by the Government for successful implementation of the curriculum in schools.

It is envisaged that the findings from this study may inform the Kenya Institute of Curriculum Development (KICD) on restructuring of the pre-service teacher education to comply with the needs of CBC. As a result, pre-service teachers may be equipped with the necessary knowledge and skill on implementation of CBC.

The findings from this study may inform the Nairobi City County Government on in-service teacher development, by suggesting the aspects that pre-primary school teachers need further training on, to effectively implement the CBC. The findings could also assist the Teacher Service Commission (TSC) to develop quality induction programs that would equip teachers with necessary skills and knowledge on the CBC.

The study findings may also be expected to inform school managers whether pre-primary school teachers are prepared to adopt and implement the CBC. From the study recommendations, the school managers may embrace change that would enhance implementation of the curriculum in public pre-primary schools.

The study findings may help pre-primary school teachers to know the vital role they play in implementation of CBC in the schools. Further, the study would identify various gaps and deficits which they could address for affective implementation of the Curriculum.

In addition, the study findings may also inform policy guidelines needed to be put in place to support pre-primary school teachers' professional development for effective

implementation of the CBC. Finally, it is envisioned that the study would contribute to the body of knowledge, on pre-primary school teacher preparedness to implement CBC and identify gaps for further research.

1.4 Limitations and De-limitations of the Study

The study limitations and de-limitations were discussed as below;

1.4.1 Limitations of the Study

Teaching in pre-primary level was very involving given the high teacher-learner ratios in public pre-primary schools in the County. The teachers did not have time to fill the questionnaires during teaching hours as they had to adhere to the stipulated timetable and attend to other responsibilities assigned by the school administration. This implied that the teachers were to be left with the questionnaires which they could fill at their own free time and the researcher could collect them later. However, this could create room for the teachers to deliberate on how to fill the questionnaires which could greatly influence their responses. To address this, the researcher and the research assistants had to wait until break time or lunch break to administer the questionnaires, which participants were requested to fill within that time and handed them back.

Accessing schools during the Covid-19 pandemic was a big challenge. Most of the schools were not willing to receive visitors which might have led to postponement of the data collection exercise. To address this, the researcher sought a permit from the Ministry of Education to be allowed to collect data from the schools, the researcher served the schools' management with the permit and requested to be

allowed to collect data. In addition to that, the researcher and the research assistants ensured that they adhered to the Ministry of Health guidelines of putting on masks and having sanitizers.

1.4.2 De-limitations of the Study

The study was confined to public pre-primary schools in Nairobi City County, where by the head teachers, pre-primary school managers and pre-primary school teachers in the public primary schools were the main focus of the study. This was informed by studies which revealed that there was minimal use of competency-based approaches in public pre-primary schools in the County.

There are several factors that could affect the adoption and implementation of the CBC. However, this study confined itself to the extent to which teachers had been trained in CBC, their technological skills, their perceptions of the curriculum and the challenges they faced in implementing the Curriculum. This was because teachers are key players in implementation of curriculum. Their preparedness was therefore, key to understanding implementation of the CBC.

1.5 Assumptions of the Study

The study was based on the following assumptions;

That CBC had been rolled out in all pre-primary schools in Kenya, as such; the findings from this study could be generalized.

That the pre-primary school teachers who participated in the study were trained in Early Childhood Education. Thus, they had the ability to understand the questions and provide relevant information in regard to the variables under investigation.

That the participants provided honest responses hence, collection of accurate data with high precision of the research results, which may inform proper policies and actions.

1.6 Theoretical and Conceptual Frameworks

The theoretical and conceptual frameworks are presented in the following section.

1.6.1 Theoretical Framework

The study adopted the Concern-Based Adoption Model (CBAM) by Hall, Hord and Rutherford (2006). The Model asserts that successful implementation of a new program goes beyond provision of materials and resources. According to Hall, Hord and Rutherford (2006), the most important factor that is normally overlooked when implementing a new curriculum is the human element which constitutes the implementers of the programme. This shows successful implementation of the CBC goes beyond provision of materials and resources, the most important factor are the teachers who are the implementers. This informed the study to focus on the preparedness of pre-primary school teachers to implement the curriculum.

The model postulates that people will respond to a new program in different ways, with unique beliefs and attitudes. It further explains that change not only occurs by gaining new skills but also by changing individuals' perceptions. By doing this, the

staff's comfort and competence level will increase, making them shift their focus from personal concerns to focusing on the desired outcomes of the program. This means that apart from training the implementers of a new program to equip them with skills and knowledge, it is also important to aim at changing their perception. This informed the current study to delve and establish how the pre-primary school teachers perceive the Curriculum.

The model further explains that new programmes in learning institutions come and go, often with little improvement to show for the effort. In many cases the problem may not lie with the new program but with faulty implementation. Therefore, the theory goes ahead and suggests that before judging the effectiveness of a new programme, the education leaders need to look at the degree of fidelity that the staff members are using the new program and their expertise in it. This means that the success in implementing the new Curriculum largely depends on the competency of the implementers. This implies that the teachers should be equipped with the necessary knowledge and skills for the Curriculum to be effectively implemented in schools. This informed the current study to establish teachers' technological skills, their ability to prepare CBC compliant lesson plans, their ability to infuse the core competencies and their ability to assess learners' progress using assessment rubrics.

Further, the model highlights five assumptions based on implementation of new programmes in colleges and school settings; first, it takes time to institute change, as it is a process and not an event. This means that effective implementation of the CBC in schools may take time. Second, if change is to be facilitated in learning institutions, the implementers of the programme should be the focus as change

cannot take place unless members of the institutions change. Thus, the teachers who are the key players in implementation of the Curriculum should be the center of focus if the CBC implementation is to be successful. It is therefore necessary to establish how teachers are implementing the new Curriculum. Third, change is a personal experience and how individuals perceive the change will affect the outcomes. Thus, teachers' perceptions on the CBC are likely to differ among teachers and it may affect their ability to implement the Curriculum differently. Fourth, individuals progress through different stages regarding their emotions and capabilities in relation to a new program. This assumption implies that teachers' acceptance of and ability to implement the CBC fully, is likely to vary across the board. Lastly, individuals responsible with the change process should work in a systematic and adaptive way where progress needs to be monitored closely. This implies that there is need for the Government to monitor the implementation of the CBC in schools.

1.6.2 Conceptual Framework

The following conceptual framework is a diagrammatic representation illustrating the relationship between teacher preparedness and implementation of the CBC.

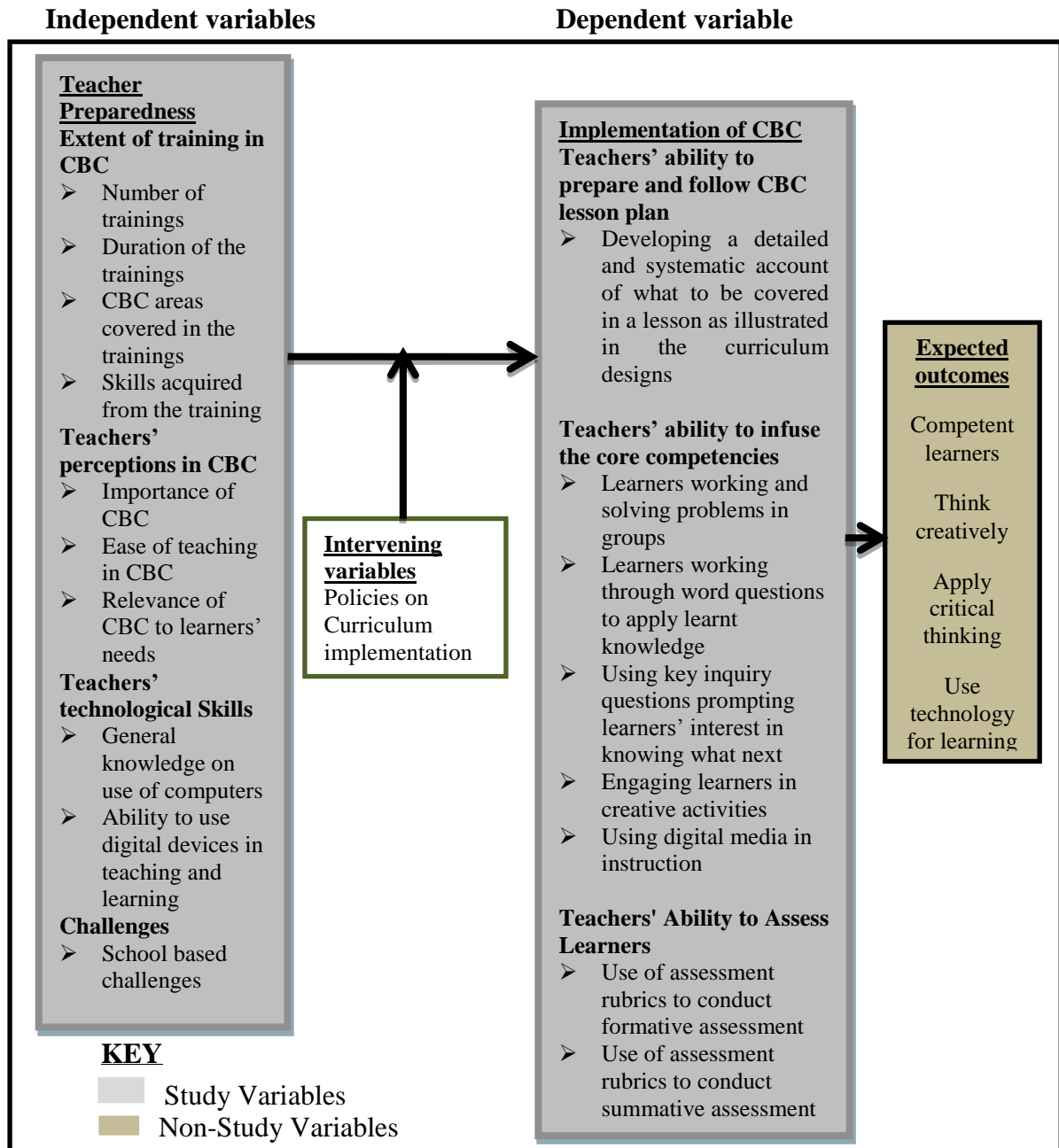


Figure.1.1: Conceptual framework showing a relationship between teacher preparedness and implementation of CBC

Figure 1.1 illustrates the relationship between teacher preparedness and implementation of the CBC. The implementation of the CBC which is the dependent variable was measured by teachers' ability to; develop and follow CBC lesson plans, infuse core competencies in learning and use assessment rubrics to measure learners' progress. The framework shows that implementation of CBC could be affected by the independent variables which include the extent to which pre-primary school teachers have been trained in CBC, teachers' technological skills, teachers' perceptions about the curriculum and the challenges teachers face when implementing the curriculum.

Each independent variable has been operationalized with indicators which altogether may affect the implementation of the CBC. The number of trainings in CBC that pre-primary school teachers had attended, the duration of the trainings, the curriculum areas covered in the trainings and the skills acquired from the training will influence teachers' abilities to prepare lesson plans, their ability to infuse the core competencies and their ability to assess learners using the assessment rubric. In addition, teachers' general knowledge on how to use computers and their ability to use digital devices in teaching-learning can influence implementation of the curriculum. Further, the framework illustrates that how pre-primary school teachers perceive the curriculum and the kind of challenges they experience can influence implementation of CBC in public pre-primary schools.

1.7 Operational Definition of Terms

Assessment -refers to use of rubrics to measure learners' progress in public pre-primary schools.

Core Competencies - refers to learners' abilities to communicate and collaborate, to think critically and solve problems, to be creative and use digital literacy in learning.

Curriculum Implementation - refers to pre-primary school teachers' abilities to: prepare CBC lesson plans, to infuse core competencies in instruction and to assess learners using assessment rubrics.

Teacher Preparedness -refers to the extent to which teachers are trained in CBC, their technological skills and their perceptions about the CBC

Teachers' Perceptions-refers to pre-primary school teachers' beliefs on importance of the CBC, ease of teaching CBC and relevance of the curriculum to learners' needs.

Technological Skills -refers to pre-primary school teachers' ability to used digital media in implementing CBC

Training in CBC - refers to the number and duration of trainings which the pre-primary school teachers have attended, the CBC areas covered in the training and the skills acquired from the training.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter presents a review of empirical literature that is related to the problem under investigation, which forms the basis of the identification of gaps. The review has been organized according to the themes which have been derived from the specific objectives of the study. Finally, the chapter presents the summary of the related literature and the gaps that were identified.

2.1 Training of Pre-primary School Teachers in CBC and their Ability to Implement the Curriculum

The move from content based to Competency Based Curriculum demands change in instruction therefore, comprehensive teacher induction in CBC should be a priority for proper actualization of the curriculum (Kafyulilo & Rugambuka 2012). According to Zeiger (2018), teachers are the core implementers of the curriculum, therefore, they need to have significant knowledge, skills and abilities to combine all the components in order to create a learning environment. Further, KICD (2017) explains that teachers need to put conscious efforts to integrate the aspects of the CBC in lesson plans, also, they need to be highly knowledgeable in the application of teaching strategies necessary to make learning active and effective. According to Jeng'ere (2017), as a requisite for successful teaching-learning in schools, teachers require pedagogical knowledge and skills on how to integrate CBC aspects such as the core competencies in instruction. This implies that training of teachers is imperative for successful implementation of CBC in schools.

Teachers play a key role in providing opportunities for learners to learn and develop their potentials (Zeiger, 2018), in the context of the CBC teachers need to conceptualize the paradigm shift from teaching to learning and conducting of formative assessment of learners' progress. Similarly, Syomwene (2017) highlights that teacher need to bear in mind of their extended responsibilities on the connections built between the curriculum and learners during instruction. Therefore, teachers need knowledge and skills that will enable them have the ability to use appropriate pedagogical approaches, developing lesson plans, assessment tools and choosing appropriate instructional materials that can accommodate pupils at different levels.

For effective implementation of CBC, Jeng'ere (2017) emphasizes that preparation of reflective lesson plans is paramount. According to Farrel (2012), a lesson plan is a written description which outlines the procedures, content, materials, time and learning environment used in instruction. Studies have been conducted to establish the role of training teachers in lesson planning and its influence in curriculum implementation for instance; Mokuia (2010) conducted a study to evaluate the influence of training of primary school teachers as key agents in curriculum implementation in South Africa. The findings revealed that teachers play a vital role in implementing the curriculum and therefore, recommended that in order for South Africa to attain the educational goals, teachers should be trained on how to prepare effective lesson plans for the new curriculum before being involved in the implementation process. This implies that training of teachers should be given priority before implementing a new curriculum. The reviewed study was conducted in primary schools in South Africa; the findings may not apply in Kenya therefore; it

is important to establish how pre-primary school teachers in Kenya have been trained in the CBC and their abilities to prepare effective lesson plans.

Teacher training in the curriculum can influence the implementation process as indicated by Molapo (2018) who carried out a study to establish how grade 3 teachers in Limpopo primary schools in South Africa implemented the new curriculum. The study reported that majority of the grade three teachers lacked the required skills and knowledge on how to implement the curriculum and this hindered the implementation process. This implies that inadequate training of teachers hampers effective implementation of a curriculum. Since the study was conducted in South Africa, the findings may not apply in Kenyan schools, therefore, there is need to establish the extent to which the pre-primary school teachers in Kenya have been trained in CBC and their abilities to integrate the core competencies in instruction.

A study conducted in Cameroon by Ambei and Kim (2018) sought to establish the extent to which the teachers were implementing CBC in primary schools. The findings indicated that a majority of teachers were yet to understand what the CBC is all about. Further, the report indicated that even those teachers who had been trained and had some knowledge of the curriculum, effective implementation was still a major challenge in most situations because of insufficient resources as well as lack of knowledge on how to improvise resources. Based on the findings, the study recommended that it is very imperative for educational stakeholders in Cameroon to brainstorm and ensure that teachers are well apt with knowledge on the effective implementation of the curriculum as well as provide adequate instructional

resources. This study provides evidence that implementation of CBC can be hindered by teachers' lack of knowledge and skills on the curriculum. However, the study involved primary schools in Cameroon which is a different setting from Kenya, therefore the findings may not necessarily apply in Kenyan schools. Hence, it was important to establish the extent to which teachers in Kenyan schools have been trained on the curriculum and how this is affecting the implementation process.

A study conducted by Handwe and Mpofu (2017) on teacher preparedness to implement a newly developed grade three curriculum in Zimbabwe purposed to examine primary school teachers' competence in preparing lesson plans aligned to the new curriculum. The findings showed that the training which teachers underwent was not adequate to address their needs regarding how to prepare effective lesson plans. The study suggested that there was need for the Ministry of Education to introduce short courses to bridge teachers' knowledge gaps on the curriculum. This implies that it is crucial for teachers to be trained on how to prepare lesson plans when curriculum changes call for different components of such plans. The CBC calls for lesson plans that have additional components compared to those in the previous curriculum. Not much has been researched on teachers' ability to prepare lesson plans that are aligned to the CBC. This indicates that there was a need to find out how well teachers are doing this in this era of CBC.

Another study was conducted in Zimbabwe by Zhuwale and Shumba (2017), which investigated on teacher factors which hindered smooth implementation of curriculum in rural schools of Zimbabwe. The study revealed that teachers' lack of pedagogical knowledge on how to infuse the aspects of the curriculum in instruction

was the major challenge which hindered the implementation of the curriculum. The study recommended for comprehensive training of teachers on the curriculum. This implies that training is crucial for effective integration of various aspects of a curriculum. However, the study was carried out in Zimbabwe which is a different context from Kenya thus; the findings may not be applicable locally. It was important to establish the extent to which the pre-primary school teachers in Kenya have been trained in CBC and their ability to integrate the core competencies in instruction.

In Malawi, a study was conducted by Sabola (2017), who examined the extent to which teachers in Malawi had been trained to implement a revised primary school curriculum. The study aimed to establish whether primary school teachers had the ability to develop appropriate assessment tools for the revised curriculum in Malawi. The study established that there was minimal implementation of the curriculum in schools. The study reported that majority of the teachers were not trained on how to implement the curriculum. As a result, they used old modes of assessment which were used in the previous curriculum. This implies that it is crucial to train teachers on how to implement a curriculum especially when it calls for change in assessment methods. However, the study used qualitative data only which was collected using face to face interviews, but the current study used interviews, questionnaires, observation guide and document analysis guide. In addition, the reviewed study was conducted in primary schools in Malawi as such, the findings may not apply in pre-primary schools in Kenya. It is important therefore, to establish the extent to which pre-primary school teachers in Kenya have been trained in CBC and their ability to use the assessment rubrics.

Training of teachers influence their abilities to implement a curriculum as reported by Paulo (2014), who conducted a study on pre-service teacher preparedness in integrating CBC in secondary schools in Tanzania. The study purposely selected 16 second year pre-service teachers from the University of Dar-salaam. The findings showed that the pre-service teachers were not trained on new assessment methods and how to prepare lesson plans as stipulated in the CBC. As such, they were still using traditional methods of teaching and assessment. The study recommended a review of teacher education in all universities in order to prepare teachers with the required pedagogical content and knowledge necessary to implement the competence-based curriculum. This implies that training of teachers is crucial for effective implementation of CBC. However, the study used purposive method in selecting the respondents which involves a smaller sample and the results may not be applicable to a larger population. Since this study was conducted in Tanzania, the findings may not be applicable in Kenya. It is important therefore, for us to establish the extent to which teachers in Kenya have been trained to be able to develop CBC lesson plans.

Effective implementation of a new curriculum requires continuous training of teachers as reported by Kanyonga, Maatana and Wendit (2019), who examined how technical trainers implement the core aspects of CBC in Arusha, Tanzania. The study employed qualitative research approach through use of a case study design. Purposive sampling was used to select 24 trainers from three technical training colleges in Arusha City. The study established that majority of the trainers had received in-service training but had little understanding about the curriculum. It was also reported that the trainers had little knowledge and skills in infusing the core

aspects of the curriculum. The study recommended for continuous training of technical trainers on how to implement the CBC. This shows that teachers need to undergo continuous in-service training for them to be able to effectively implement the CBC. Although the findings from this study are informing, the study was conducted in Tanzania and the findings may not apply in pre-primary schools in Kenya. Therefore, it is important to establish the extent to which pre-primary school teachers in Kenya have been trained in CBC and their abilities to integrate the core competencies.

Inadequate training affects teachers' ability of assessing learners as affirmed by Komba and Mwindaji (2015) who explored whether teachers in Tanzania practiced formative assessment as per CBC requirement. Findings showed that 86% of the teachers did not have proper understanding on CBC, 76% of the lesson plans prepared by the teachers did not reflect qualities of CBC lesson plans. Involvement of students in classroom activities was overall low and teachers who practiced formative assessment were less than 50% of the observed classroom sessions. The study recommended regular training of teachers to equip them with necessary skills to implement the new curriculum. This implies that continuous training of teachers on how to implement CBC is important. Through in-service training, teachers will acquire knowledge and skills on how to do formative assessment using assessment rubrics. Not much has been documented on pre-primary school teachers' ability to assess learners using the assessment rubrics. It is therefore important to find out how well teachers are doing this in schools.

Another study was conducted in Tanzania by Makunja (2016), who focused to establish the challenges facing teachers in implementing CBC in schools in Tanzanian schools. The study established that teachers lacked enough knowledge on how to integrate the aspects of the new curriculum in instruction. This was identified as the major challenge which impeded effective implementation of the CBC in schools. In light of these findings, the study recommended that teachers should be given opportunities to participate in formulation process of the curriculum and be trained on how to implement the curriculum. This implies that it is crucial to involve teachers in the curriculum development process. This will enable them to understand the various aspects of the curriculum before being involved in the implementation process.

Teacher training and professional development are crucial for effective implementation of a curriculum. This was highlighted by Kangori (2014), who studied the influence of preschool teacher training and professional development on implementation of science curriculum in Nairobi County. The study established that teacher training and professional development influenced implementation of the curriculum in preschools. The study recommended that the government should ensure continuous training and professional development of preschool teachers through in-service programs. Though this study was conducted in Kenya, it focused on preschool teachers' abilities to implement the 8.4.4 preschool science curriculum. These findings may not apply to the implementation of the CBC curriculum. For this reason, there is need to establish the extent to which teachers have been trained to implement the CBC and their abilities to infuse the core competencies in instruction.

Teachers' competencies in pedagogy influence effective implementation of a curriculum. Kemboi and Nabwire (2017) conducted a study in North Rift region of Kenya which investigated on teachers' competence in pedagogical knowledge in teaching in schools. The study findings showed that majority of the teachers did not use learner centered approaches like inquiry, discussions and demonstrations. The study concluded a significant number of the teachers were not competent in pedagogical knowledge for implementation of secondary school curriculum. This implies that if teachers do not receive adequate training in pedagogy, they will not have the ability to implement a curriculum. The reviewed study focused on teachers' competence in pedagogical knowledge in teaching 8.4.4 curriculum in secondary schools. These findings may not be applicable in the new curriculum in pre-primary schools. This necessitates a study to establish the extent to which pre-primary school teachers have been trained in CBC and their abilities to develop lesson plans that are aligned to the Curriculum.

Similarly, a study conducted by Okoth (2016) examined form three teachers training in implementing the revised English language curriculum in Eldoret East Sub-County, Kenya. The study examined teachers' competencies in preparing English lesson plans using a mixed method descriptive design. The study established that teachers were still using lesson plans for the old curriculum. Lack of appropriate in-service training was identified as the major factor influencing implementation of the revised curriculum. The study recommended for continuous training of in-service teachers on the revised curriculum. This indicates that in-service training of teachers is important for effective implementation of a revised curriculum. The reviewed study examined the abilities of English teachers in secondary schools to implement a

revised curriculum. The findings may not apply in pre-primary schools because their training and expectations are different. Therefore, it is important to establish the extent to which pre-primary school teachers have been trained and their abilities to develop lesson plans that are aligned to CBC.

Extent to which teachers have been trained may influence effective implementation of CBC as reported by the KNUT, (2019) which conducted a study that examined the extent to which primary school teachers had been trained in implementing the CBC. Questionnaires and interview guides were used to collect data. Collected data was summarized using descriptive statistics. The study found out that there was minimal use of CBC approaches in primary schools and majority of the teachers were not trained on how to implement the CBC. The study among other recommendations urged the government through the Ministry of education to initiate a mechanism for systematic training of in-service and pre-service teachers. This implies that lack of adequate training of teachers will hinder effective implementation of the CBC. The findings from the reviewed study were based on summaries from descriptive statistics. There was need to employ inferential statistics in analyzing the data. This helped establish the relationship between the extent to which pre-primary school teachers have been trained in CBC and their ability to prepare lesson plans. In addition, the reviewed study used questionnaires and interview schedules which collected self-reported data that might be biased. In addition to questionnaires, and interview schedules, the current study used an observation checklist and document analysis guide which enabled collection of reliable and accurate data. The self-reported data from questionnaire and interview schedule was verified through observation checklist and document analysis guide.

Extent to which teachers are trained to implement a new curriculum has influence on their abilities to implement the curriculum. This was affirmed by Waweru (2018) who conducted a study which examined the extent to which lower primary school teachers were trained to implement the CBC in Nyandarua North Sub- County. A sample size of 100 primary school teachers, 17 head teachers and 2 curriculum support officers were purposively selected to participate in the study. Findings showed that 98.8% of the teachers were not trained to implement the curriculum especially the new learning areas. The study also reported that preparing of the CBC lesson plans was impossible to 95% of the teachers given the long time it took to write a single lesson plan.

Further, the study indicated that 50% of the teachers' experienced challenges in designing and using the assessment rubrics. In addition, the study reported that majority (72.8%) of the lower primary school teachers needed support in infusing most of the core competencies in instruction as they felt that they were still incompetent. Based on the findings, the study recommended that an appropriate training framework should be enacted by the Ministry of Education on designing CBC lesson plans, infusing core competencies and use of assessment rubrics. This implies that majority of lower primary teachers had not received training on how to implement the CBC hence experienced challenges preparing the required lesson plans. In spite of the important findings from the reviewed study, it only focused on lower primary school teachers, thus, the ability of pre-primary school teachers to implement the curriculum was unknown. This gap informed the current study to establish the extent to which pre-primary school teachers had been trained in CBC and their abilities to implement the curriculum in public pre-primary schools. In

addition, the findings from the reviewed study were based on summaries from descriptive statistics. There was need to conduct a study that which could utilize inferential statistics in analyzing the data. This was to help establish the relationship between the extent to which pre-primary school teachers have been trained in CBC and their ability to prepare lesson plans.

A study conducted by Ondimu (2018) examined teachers' readiness to implement the Competency Based Curriculum in private preschools in Dagoretti North Sub-County, Nairobi County. The study adopted a descriptive survey design. Data was collected using questionnaires and interview schedule and summarized using descriptive statistics. The study established that majority of the preschool teachers experienced difficulties using the assessment rubrics. Further, the study reported that majority of the teachers had not received adequate training in the CBC where by 35.2% had attended only one training in CBC, 25.8% had attended two in-service training in CBC and 9.7% had attended more than five trainings in implementation of the CBC. This implies that preschool teachers require more training on how to implement the curriculum. The reviewed study investigated on the extent to which preschool teachers had been trained on how to implement the CBC and their abilities to conduct formative assessments using the rubrics but it only focused on private pre-primary schools. Therefore, the extent to which pre-primary school teachers in public schools have been trained in CBC and their abilities to use the assessment rubrics was unknown. Therefore, the current study sought to fill the gap by investigating the preparedness of pre-primary school teachers to implement CBC in public pre-primary schools. Lastly, the reviewed study used questionnaires and interview schedules which collected self-reported data which might have been

biased. The current study used of observational checklist, document analysis guide, questionnaires and interview schedules. Data from observation checklists and document analysis guide was used to verify the self-reported data from questionnaires and interview schedules.

A case study which was conducted in Kenya by Kisirkoi and Kamanga (2018) delved to determine primary school teachers' preparedness to implement CBC in Narok County. The study sampled 15 teachers from the lower primary grades who were given questionnaire to fill. Findings from the study indicated that majority 13(86.7%) of the teachers agreed that they did not gain much from the pre-service and in-service training hence they were not adequately prepared to implement the curriculum. In addition, the study reported that 12(80%) of the teachers did not have adequate teaching-learning materials in their respective classrooms; while 11(73%) did not know how to improvise other learning materials besides using textbooks. Further, the report indicated that only 7(46.6%) had the ability of using laptops to teach, and 9(60%) used a cell phone to create learning activities. Moreover, the study indicated that all 15 (100%) the teachers they did not receive continuous training on CBC yet they lacked adequate understanding on how to implement the curriculum. Based on the results, the study concluded that teachers in the school were not adequately prepared to implement CBC. Even though the reviewed study was conducted in Kenya, it examined lower primary school teachers' abilities to implement the curriculum. Therefore, there was a need to establish pre-primary school teachers' ability implement the curriculum. In addition, the reviewed study did not establish the teachers' perceptions towards the CBC hence; we are not able to establish whether the teachers' ability to infuse the core competencies was

influenced by their perceptions. As a result, the current study investigated the relationship between pre-primary school teachers' perceptions and their ability to implement the curriculum in public schools.

A study by Abdullahi (2020) investigated school factors influencing the implementation of CBC in pre-schools in Garissa Sub-County, Kenya. The study employed a descriptive research design and collected data using questionnaires and interview schedules. The findings of the study revealed that majority of public pre-primary teachers were female and were trained to teach in pre-primary schools. Further, it was reported that majority (68%) of teachers in public pre-primary schools had not attended any training on how to implement the new curriculum. In addition, the report indicated that there was inadequacy of instructional resources especially digital equipment in the schools. Based on the study findings, it was recommended that the ministry of education should supply more instructional resources in public primary schools especially ICT equipment to enhance implementation of the curriculum. Also, it was recommended that the government should provide training and capacity building programs for preschool teachers to enhance their knowledge on the curriculum. The reviewed study used questionnaires and interview schedules which collected self-reported data which might have been biased. The current study used observational checklist, document analysis guide, questionnaires and interview schedules. Data from observation checklists and document analysis guide was used to verify the self-reported data from questionnaires and interview schedules. In addition, the reviewed study did not investigate pre-primary school teachers' perceptions about the curriculum and their ability to use digital media in implementing the curriculum. Based on the

identified gaps, the current study investigated how public primary school's perception about the CBC influenced implementation of the curriculum, further it established the ability of the teachers to use ICT in implementing the curriculum.

Another study by Chemagosi (2020) sought to establish teachers' preparedness on implementation of competence-based curriculum in lower public primary schools in Kilifi and Nandi counties, Kenya. The study adopted a descriptive research design and reported that teacher preparedness contributes significantly on implementation of competency-based curriculum ($\beta=0.342$, $t=7.985$, $p>0.05$). This implies that teacher preparedness significantly influences implementation of competency-based curriculum and therefore the hypothesis that there is no significant difference between teachers' preparedness and implementation of competency-based curriculum was rejected. The study recommended that the Ministry of education should equip teachers with requisite skills, knowledge and teaching and learning resources to adequately prepare them for implementation of the curriculum. In spite of the important findings from the reviewed study, it only focused on lower primary school teachers in public schools; thus, the ability of pre-primary school teachers to implement the curriculum was unknown. This gap informed the current study to establish the extent to which pre-primary school teachers had been trained in CBC and their abilities to implement the curriculum in public pre-primary schools.

2.2 Pre-Primary School Teachers' Perceptions on CBC and Its Implementation

Perceptions in this study refer to the way teachers view or interpret the Competency Based Curriculum. Studies have shown that teachers' perceptions are crucial in influencing their acceptance and subsequent implementation of Curriculum reforms.

According to Barbour and Harrison (2016), teachers' perceptions can influence their attitudes towards change, therefore, they are likely to adopt educational reforms in instruction if they perceive them to satisfy their own needs and those of the learners.

Teachers' perceptions can influence implementation of curriculum as affirmed by Konokman and Yelken (2017) who sought to determine teachers' perceptions in curriculum development competencies in Turkey. The results revealed that teachers perceived themselves incompetent in handling core aspects of the curriculum like lesson planning and their perceptions did not differ significantly according to their gender and level of education.

A study which was conducted in Namibia by Ngihalwa (2018) investigated the influence of teachers' perceptions on curriculum implementation in Namibian primary schools. The results revealed that majority of the teachers were not satisfied with the level at which they were involved in the curriculum process as they were only involved in the implementation process. The study recommended that it is of significance to allow teachers participate in developing the curriculum since they understand learners' needs and interests. This means that lack of involvement of teachers in curriculum development process makes them feel that the curriculum is being imposed on them when asked to implement.

In Lybia, Salem (2013) conducted a study to establish teachers' perceptions on implementation of the revised English language curriculum in Lybian public schools. The study examined how the teachers prepared their lesson plans, taught and reflected the revised curriculum in their classroom practices. The findings showed that lack of in-service training for teachers to update their skills on the

revised English curriculum contributed to the negative perceptions among teachers, consequently affecting implementation of the curriculum. It is therefore evident from the reviewed study that training of teachers in implementation of curriculum will make teachers to perceive the curriculum positively, which will enhance the implementation process. Based on the findings from this study, we can therefore conclude that teachers' perceptions can influence their commitment in implementing a curriculum.

Teacher perceptions has been pointed out as a factor which influences curriculum implementation as highlighted by Gobingca, Athiemoolam and Blignut (2017), who conducted a study with an aim of investigating teachers' perceptions as a factor affecting National curriculum implementation in Mthantha district, South Africa. The study employed an exploratory design where qualitative approach was adopted. Interviews comprising semi-structured questions were used to collect data through face-to-face approach from the participants. The results showed that teachers had negative perceptions on the curriculum due to lack of in-service training on how to implement the curriculum. The study recommended that the department of education and all stakeholders to work closely to support teachers in implementing the curriculum effectively. These findings affirm that lack of adequate training of teachers can cultivate negative perceptions about implementation of a curriculum.

Teachers' perceptions may influence effective implementation of a curriculum as demonstrated by Abudu and Mensah (2016), who investigated on basic school teachers' perceptions about the new curriculum in Ghana. The study found out that the level of teachers' perceptions towards the curriculum was low as a result, there

was minimum use of the new curriculum across schools. The study recommended for decentralization of the curriculum by increasing teachers' participation in curriculum development process so that they own it from the beginning

Teachers' perceptions influence implementation of curriculum reforms in schools as affirmed by Adebayo (2014) who conducted a study in Nigeria that sought to determine teachers' perception on new structured 9-year Basic Education Curriculum in Ekiti State, Nigeria. The results revealed that the perceptions of teachers were negative due to lack of awareness about the curriculum; as a result, there was minimal use of the revised basic curriculum in the sampled schools. The study recommended more training of teachers to be done through seminars and workshops. This implies that teachers' negative perception about a curriculum can hinder effective implementation.

A study by Ayodele (2015) studied teachers' perceptions in implementation of the revised curriculum in Nigeria. The findings revealed that majority of teachers had negative perceptions towards the curriculum which hindered them from effectively implementing it. The study explained that the negative perceptions were enhanced by numerous challenges which teachers face in implementing the curriculum which include; lack of trained teachers, lack of instructional materials and lack of capacity building and sensitization from stakeholders. Further, it revealed that teachers had low levels of understanding about the curriculum therefore they were not able to translate the curriculum to cogent implementation in classrooms. The study advocated for adequate training and re-training programs for teachers in effort to successfully implement the curriculum.

The way teachers perceive the Competency Based Curriculum can influence how they implement the curriculum as opined by Odey and Opoh (2015), who conducted a study in Nigeria on challenges hindering curriculum implementation in tertiary institutions. The findings revealed that failure of the implementation process was mostly caused by tutors' negative perceptions about the curriculum. It was recommended that tutors need more training in the curriculum. The study argued that if the tutors had a good understanding of the curriculum, it will change the perceptions they had that the curriculum is complicated and demanding. Hence, it will enhance implementation of the curriculum. The results imply that the training of teachers is crucial because it will influence how they perceive a curriculum.

A qualitative case study which was carried out in Nigeria by Tamara (2013), examined the perceptions and experiences of teachers concerning activities and processes that hinder curriculum implementation. Semi-structured interviews, classroom observation checklists and documents were used to collect data. The study established that teachers had positive perceptions towards the curriculum, however, majority (62.3%) were not able to infuse the aspects of the curriculum in teaching-learning due to lack of adequate knowledge about the curriculum. Teachers identified adequate training and professional development of teachers as a strategy for successful implementation of the curriculum.

Another study was conducted in Nigeria by Oretiseghimo (2015) which investigated perceptions of English language teachers on factors that inhibit the implementation of revised English language Nigeria certificate education curriculum. The findings showed that the teachers had negative views which hampered implementation of the

curriculum. The study recommended for immediate review of the curriculum policies, in-service training of teachers and intensive involvement of teachers in the curriculum review process. The reviewed study was carried out in Nigeria; hence the findings may not be applied to pre-primary schools in Kenya, a gap which necessitated the current study.

In Kenya, Puteh and Ali (2014) conducted a study to determine preschool teachers' perceptions towards using play-based approach in implementation of literacy and language curriculum in Kenya. The results showed that teachers had positive perceptions toward use of play-based approach in instruction. However, there was minimum use of the approaches in classrooms because the teachers lacked adequate knowledge and skills to implement the teaching approaches effectively. The results from the reviewed study demonstrate that by teachers having positive perceptions about a curriculum, they may not effectively implement it if they lack adequate skills and knowledge on how to implement the curriculum. The study assessed preschool teachers' perception about the play-based approach in implementation of literacy and language curriculum. Teachers' perceptions about use of play-based approach may differ from their perceptions on implementation of the Competency Based Curriculum. Therefore, the proposed study will assess pre-primary school teachers' perceptions on CBC and their abilities to use the assessment rubrics.

Another study was conducted in Kenya by Ondimu (2018) to establish teachers' readiness to implement the Competency Based Curriculum in private preschools in Dagoretti North Sub- County, Nairobi County. One of the objectives of the study was to establish preschool teachers' perceptions about the CBC. The study adopted a

descriptive survey design and targeted 38 private schools and 320 preschool teachers. The study established that majority of the preschool teachers (37.6%) perceived the CBC as a good idea; while 11.1% felt that the CBC should not be implemented and 1.1% of the preschool teachers felt that the 8.4.4 curriculum is better than the CBC. The findings from the reviewed study shows that majority of the preschool teachers in private schools have positive perceptions towards implementation of CBC.

The reviewed study investigated preschool teachers' perceptions towards implementation of the CBC in private pre-primary schools hence; the findings cannot be generalized to public pre-primary schools. Therefore, there was need to conduct a study in public pre-primary schools to establish teachers' perceptions about CBC. In addition, the findings from the reviewed study were based on summaries from descriptive statistics; therefore, there was need for a study to employ inferential statistics to provide the statistical relationship between teachers' perceptions and implementation of the curriculum. Lastly, the reviewed study used questionnaires and interview schedules to collect data while the current study made use of observational checklist, document analysis guide, questionnaires and interview schedules, use of all these instruments enabled triangulation of data hence, reliable findings.

2.3 Teachers' Technological skills and Implementation of CBC

Technology is a prime enabler of sustainable competitiveness, with the power to elevate countries' economic development (Masoum, 2015). As such, countries are delving in the integration of ICT in learning institutions with the aim of equipping

learners with digital literacy. According to Rwanda Education Board (2017), integration of ICT in CBC will help teachers and learners to make teaching-learning activities live which will help learners to understand concepts easily and quickly. In pre-schools, the use of technology has rendered a significant contribution in enhancing the system of education and arousing interest and enthusiasm among learners. This is emphasized by Kapur (2019) who posits that when teachers make use of computers and internet to impart awareness among learners in terms of academic concepts, they are able to stimulate their mind-sets and arouse zest among them.

In addition, Kapur (2019) highlights that making use of technologies by teachers in the implementation of teaching-learning methods help them to carry out their job duties in a smooth and effortless manner. Furthermore, teachers can utilize digital media to carry out class activities such as, formulation of lesson plans, assessment of learners, providing pre-school learners with pictures and images on the internet to emphasize a concept. In addition, teachers can engage children using cartoons and movies, which make them feel pleasurable within the school environment.

The significant role of ICT in preschools is also echoed by Masoum (2015) who conducted a study to identify ways in which ICTs are integrated in three preschools in south-western Sweden. The case study involved observations and interviews with preschool teachers. The findings supported claims that ICT can enhance preschool practices by providing a variety of complementary opportunities to enrich and transform existing curricula. Further, the study showed that ICTs have been appropriated as objects to enrich existing practices, as a cultural mediator, as a way

to entertain young children and as a communication and documentation tool in the studied preschools.

In India, a study was conducted by Al-Awidi and Aldhafeeri (2017) to examine teachers' readiness to implement digital curriculum in Kuwaiti Schools. The study used a mixed-method research methodology whereby a random sample of 532 teachers participated in an online survey to determine the level of their readiness. In addition, semi-structured interviews were conducted with a sub sample of the participants (21) to explore the factors that affect their readiness. The researchers developed and implemented a technology readiness survey in two domains (technical and pedagogical). The study established that teachers are moderately ready for implementation of the digital curriculum in both components of readiness (technical and pedagogical). The study argued that lack of digital skills among teachers hindered them from implementing the curriculum. Based on the findings, the study recommended in-service training of teachers on how to use technology in instruction. The results from Indian schools demonstrate that when teachers lack technological skills, they may not be able to effectively implement some aspects of the curriculum, therefore, teachers need to be equipped with computer knowledge and skills.

In line with the current digital era, teachers are required to integrate ICT in their daily teaching and replace their traditional methods with modern tools and facilities. This is echoed by Ghavifekr and Zhang (2015) who conducted a study in Malaysia. The main focus of the study was to establish the level of computer skills and knowledge of primary school teachers in the teaching and learning process. A total

of 61 teachers from 10 public primary schools in Klang Valley, Malaysia were selected randomly to complete a questionnaire. The findings illuminated that most of the teachers were normal users, and many teachers more frequently used ICT in the teachers' room for their work rather than using it in their classroom for teaching and learning. The study recommended that teachers should always be ready and well-equipped in terms of ICT competencies and positive attitude to provide ICT-based learning opportunities for learners to improve their learning quality.

Today, children are growing up in a world where they are surrounded by a vast array of technology materials. Deliberate early exposure to these technology materials is therefore imperative for children. Unfortunately, these technology materials are not used in early childhood classrooms. This was echoed in a study conducted in Nigeria by Olowe (2018) who assessed pre-primary school teachers' knowledge of technology materials and their availability in early childhood classrooms in Ondo West Local Government Area of Ondo State. The study adopted descriptive survey design. One hundred and thirty-eight participants were purposely selected from 20 public and 33 private schools as sample for the study. Two validated instruments titled 'Knowledge Test on Technology Materials (KTTM)' and 'Technology Materials Observation Checklist (TMOC)' was used to collect data. The data was analyzed using descriptive statistics of percentage, mean and standard deviation. Findings from the study revealed that pre-primary school teachers have average knowledge of technology materials that are relevant in early childhood classroom and technology materials are not adequately available in pre-primary school classrooms. This hindered effective delivery of the curriculum content.

Another study conducted in Nigeria by Oluwadar (2015) delved to establish the extent to which preschool teachers used ICT for teaching natural science's concepts and mathematics in early year's classroom. Data was collected using a Mathematics and Science Achievement Tests and semi-structured interviews with young children were conducted in 16 preschool classes in Ekiti state. Pupils in the control group received only the traditional science instruction about natural sciences (solubility, recycling) and mathematical concepts (comparison, classification and general knowledge of numbers). Pupils in the experimental group received only the science instruction with the use of ICT for the same topics. Both the experimental and the control groups consisted of classes from the same participating schools. The results of the research showed that teaching and learning through ICT as an innovative teaching method which helps learners to understand better the concept of numbers and natural sciences phenomena at preschool level, which means effective curriculum delivery. Based on the results, the study recommended incorporation of ICT in early year's classes in Ekiti as a means of an obligatory modernization of learning and teaching methods.

The Government of Kenya is vigorously pursuing the integration of ICT as a means of keeping abreast with the rapid technological changes associated with a knowledge-based economy. This has prompted the Government to introduce several e-initiatives related to the integration of ICT in learning and teaching and emphasize of digital literacy as one of the core competencies which learners should acquire. Authors have argued that ICT integration in basic education can only take place when teachers know how to incorporate and use ICT to teach in the classroom (Wambiri & Ndani, 2014).

This was also reported by Wangia (2014) who conducted a study to examine factors integration of ICT in curriculum implementation in secondary schools in Gilgil Sub-County, Kenya. The study employed descriptive research design and randomly sampled 25 principals and 229 teaching staff was used. Primary data was collected using the teacher's questionnaire and an interview guide for school principals. The study established that most of the schools had inadequate desktop computers. The study reported a significant positive relationship between availability of ICT infrastructure and ICT integration in curriculum implementation in secondary schools in Gilgil Sub-County ($r=0.68$, $p<0.05$).

In addition, a significant positive relationship was reported between teachers' use of ICT hardware infrastructure and ICT integration in curriculum implementation ($r=0.68$; $p<0.05$) and teachers' use of ICT software infrastructure and ICT integration in curriculum implementation ($r=0.66$; $p<0.05$). Also, there was a significant positive relationship between teachers' knowledge of ICT and ICT integration in curriculum implementation ($r=0.49$; $p<0.05$) and a significant, positive correlation between teachers' attitudes towards ICT and ICT integration in curriculum implementation ($r=0.18$; $p<0.05$). Based on the findings, the studies recommended teachers should also be given sufficient training on ICT use and integration into teaching and learning processes and provide schools with requisite ICT infrastructure.

A study carried out by Ngatia (2015) investigated preparedness of public secondary schools on the use of information communication technology in teaching and learning in Mukurweini, Nyeri County-Kenya. The study established that teachers

rarely used computers in teaching and learning. The school preparedness was poor with school environment and support being low while teachers had positive attitudes towards integration of ICT in teaching. However, teachers were found not to be adequately trained and experienced in the use of ICT thus very low self confidence in use of ICT in teaching and learning which affected the quality of instruction offered in the schools.

Another study conducted by Tonui and Kerich (2016) delved to establish challenges of using ICT in teaching-learning procedures in primary school institutions in the Rift valley region of Kenya. The findings indicate that the greatest challenge that teachers face is unavailability of ICT equipment which hinders effective curriculum delivery. Only 19.5% of the teachers responded that the number of ICT equipment for teachers' use is adequate while 72.3% of them indicated the opposite. Another notable challenge was the lack of institutional commitment in requiring teachers to use ICT coupled with the lack of procedures for monitoring and evaluating teachers' use of ICT in curriculum management. Further, the study indicated that lack of adequate capacity building of teachers in ICT integration largely hinders implementation of the curriculum. The study reported that many teachers acknowledged that ICT has great potential to enhance learning activities, but that is hampered by challenges such as inadequate equipment, lack of technical and administrative support, inappropriate attitudes and inadequate training.

Teachers' competence in using computers is key in integrating ICT in teaching-learning. This was emphasized by Wambiri and Ndani (2014) who carried out a study to establish teachers' preparedness in integrating ICT in lower primary schools

in Kasarani Sub-County, Kenya. The study sample was comprised of 236 primary male and female teachers who were teaching standard one to standard three classes in 31 public schools in Kasarani Division, Kiambu County, Kenya. The study established that most of the teachers that perceived high competence in computer use were younger, while majority of those who perceived low computer competence tended to be older. The largest proportion of teachers with low perceived competence at 63.1% reported low competence in their ability to teach using computers as compared to basic computer knowledge and skills or their ability to teach basic computer knowledge and skills

Further, Wambiri and Ndani (2014) reported that attitudes are a strong influence of teachers' behavior with ICT where by older teachers in the study overall held negative beliefs and attitudes. Based on the findings, the study recommended that there is need to pay attention to primary school teachers' beliefs and attitudes and particularly those that older teachers have towards the use of computers. Also, the study suggested that it is important for the Ministry of Education to address teachers' attitudes and beliefs towards computers and their use in teaching.

This calls for the need to provide ICT training to long serving teachers, especially those that went through training before ICT was integrated into the teacher education curriculum. The study argued that even where teachers perceive themselves as knowledgeable in operating computers, they may not be able to integrate computers in teaching unless they receive specific training on how to teach using computers. Thus, such teachers may need specific training on integrating ICT in teaching. The Ministry of Education may, therefore, need to provide professional

development coursework on ICT integration in teaching for such teachers. Such training could take an in-service mode structured in such a way that it may be conducted during holiday sessions to make it possible for practicing teachers to be available for training.

Finally, the study recommended that to enhance teacher preparation, the current primary teacher education curriculum should be revised to include content on ICT pedagogy. This will help to ensure that trainers focus on developing teachers' knowledge and skills for teaching using computers in addition to teaching computer literacy. The reviewed study only focused on computers. There are other ICT tools that could be used in teaching and learning particularly in the implementation of CBC. Therefore, the current study delves to establish how prepared teachers are to integrate ICT in teaching-learning in this era of CBC.

2.4 Challenges facing teachers in Implementing CBC in Schools

Competency based teaching-learning approaches have gained popularity among stakeholders in the education sector globally. However, studies have demonstrated that many countries which have implemented the competency-based approaches to teaching and learning have experienced a number of challenges which have hampered smooth and effective implementation of the curriculum. For instance, in England, Byrne, Downey and Souza (2014) conducted a study in four case study schools that had adopted innovative competence-based curriculum projects in Year 7 for a variety of educational and social reasons. The study discussed the issues and challenges posed by the CBC for teachers in the daily life of the classroom. The

study reported that the nature and structure of the curriculum influenced by the stance adopted inevitably affected approaches to teaching and learning.

In addition, Byrne et. al (2014) contended that changes to the curricula in the case study schools had revealed tensions between traditional approaches to teaching and learning with ‘strong’ classification and framing and the new, more progressive approaches with ‘weak’ classification and framing. These tensions impacted on teachers’ identities which made effective classroom practice problematic. The study concluded that managing the tensions between traditional and more progressive pedagogies is worthwhile as this will enable students to become more fully integrated, and successful participatory members of twenty-first-century society rather than simply reproducing the socio-economic status quo or the requirements of current dominant educational discourse in England.

In Ghana, a study was carried out by Acquah, Frimpong and Kwame (2017) who sought to establish the challenges facing the implementation of Competency Based Training Programs (CBT) in training institutions in Ghana. The study reported that implementation of competency-based approaches had contributed immensely to the training of highly skilled graduates needed in the industry. Further, the study highlighted that in spite of the realized positive outcomes, the curriculum had not been effectively implemented in some of the training institutions due to inadequate funding of the institutions, lack of infrastructure development and lack of policy guidelines in the institutions.

In Rwanda, Mugabo, Ozawa and Nkundabakura (2021) conducted a case study which explored the relationships between a school’s profile and their capacity to

implement Competency Based Curriculum. The study interviewed and observed 12 teachers and surveyed their school facilities. Findings from the study indicated that variations in the implementation of CBC between teachers were caused by the differences in their professional development, inadequate training on CBC, inadequate teaching-learning resources and lack of infrastructural capacity of the schools. Based on the findings, the study recommended provision of adequate instructional resources and establishment of strong and regular in-service training programs to help teachers know how to put the new ideas into practice. The report from the reviewed study shows that lack of adequate instructional resources and failure to adequately train teachers can cause challenges in implementing. Therefore, there was a need to establish if these challenges are also experienced in Kenyan schools.

In Rwanda, Ndayambaje (2016) highlighted the challenges facing implementation of competency-based curriculum in Rwandan schools. It was reported that despite the fact that all teachers in primary schools were trained on how to implement the curriculum, some were resisting change. As a result, they continued using the old teaching materials and methods. Lack of sufficient teaching-learning resources was reported as another issue hindering effective implementation of CBC. This implies that provision of adequate instructional materials and constant training of teachers to change their perception about the CBC is important for successful implementation.

Implementation of CBC can be hindered by a number of factors as reported by Makunja (2016), who investigated challenges facing teachers in implementing the competency-based curriculum in Tanzania. The study established that teachers faced

a lot of challenges which impeded effective implementation of the curriculum in teaching and learning. The study highlighted lack of in-service training of teachers on CBC, lack of sufficient instructional materials, overcrowded classrooms and low ability of children as the major challenges hindering effective implementation of the curriculum in Tanzania. In the light of the findings, the study recommended that teachers should be allowed to participate in developing the curriculum. The study also recommended that the Ministry of Education should devise ways of provide instructional materials which are consistent with the competency-based curriculum. This implies that training of teachers on how to implement the curriculum, provision of instructional materials and enough classrooms are crucial for effective implementation of CBC.

A study was conducted in Tanzania by Hipolite (2019) which explored the challenges of implementing CBC in public secondary schools in Morogoro Municipality. The study employed a case study design and qualitative research approach whereby data was collected from 36 participants using observations, interviews and focus group discussions. The study reported that teachers were faced with many challenges which hindered effective implementation of curriculum which include large number of pupils in classes, lack of adequate materials for teaching-learning and teachers' lack of proper understanding of CBC. The study recommended that the Ministry of Education in Tanzania should provide schools with adequate teaching learning materials and adequate in-service training to all teachers.

Another study conducted by Muneja (2015) highlighted the challenges faced by secondary school teachers in implementing the CBC in Tanzania. The study reported that teachers experienced many challenges which negatively impacted implementation of the curriculum. The highlighted challenges faced by the teachers in Tanzania include, teachers' lack of adequate knowledge on teaching and assessment methods, lack of adequate textbooks and poor quality of instructional materials. In addition, the study reported lack of adequate ICT tools for instruction and teachers' lack of motivation to implement the curriculum. The study suggested that the Ministry of Education and Culture should devise in-service training sessions for teachers to change their attitude towards implementation of the curriculum and provide adequate materials and infrastructure in all schools.

A study by Komba and Mwandangi (2015) investigated issues surrounding the implementation of CBC in Tanzanian secondary schools. The results indicated that the majority (86%) of the teachers lacked adequate knowledge on the curriculum. Further, the study reported that majority (78%) of the reviewed lesson plans did not reflect the qualities of a competence-based lesson plan. In addition, it was reported that the involvement of learners in classroom activities by the teachers was overall low and less than 50% of the observed teachers conducted formative assessment. Based on the findings, the researcher concluded that CBC was not implemented effectively in the sampled schools and recommended that regular training for in-service teachers should be conducted in order to enable them acquire up-to-date teaching skills as required by the changes introduced in the curriculum.

The extent to which teachers understand a curriculum and their capacity to implement a curriculum is vital for effective implementation of any curriculum. Momany and Rop (2019) conducted a survey in Bomet East Sub-County which sought to establish challenges faced by teachers when implementing CBC. The results showed that teachers' lack of adequate knowledge and skills on how to implement the curriculum was the major factor hindering effective implementation of the CBC. The study recommended that the Ministry of Education and KICD should provide more in-service training sessions for teachers. This will help bridge the capacity gaps in pedagogy, assessment and preparation of teaching materials. This means if teachers lack adequate knowledge and skill on CBC, they will experience challenges when implementing the curriculum. These findings are informing however, the study focused on lower primary school teachers therefore; there is a need to establish the challenges faced by pre-primary school teachers in implementing the CBC.

Another study conducted by Sifuna and Obonyo (2019) examined the challenges hindering effective implementation of CBC in Kenya. It was established that the Curriculum was not systematically planned and implemented. There is minimal training of teachers on the curriculum content and teaching methods. In addition, it was highlighted that there was inadequacy of instructional materials and lack of participation by parents and other relevant stakeholders in the curriculum reform process. The study recommended the Ministry of Education to create an adequate framework for training teachers, sensitize parents and provide adequate instructional materials and classrooms in all schools. This implies for effective implementation of a curriculum, adequate training of teachers, sensitizing parents and providing

adequate teaching and learning resources are key factors to be considered. The highlighted factors were established in lower primary grades, which may not be the case in pre-primary section therefore, was crucial to establish if teachers in public pre-primary schools are experiencing the same challenges.

Teachers are likely to face challenges when implementing a new curriculum. As highlighted by Wambua and Waweru (2019) who conducted a study to establish the challenges facing the implementation of CBC in all public primary schools in Machakos County. The study sampled 342 Grade 1, 2 and 3 teachers. The study established that teachers were not fully prepared for the implementation of CBC, there were inadequate staff, inadequate infrastructure and lack of adequate teaching and learning resources. The study recommended that the Ministry of education should invest more on teacher training and involve teachers in curriculum reform process to change their attitudes towards the curriculum for effective implementation. The study highlights a number of challenges hindering effective implementation of CBC but it only focused on lower primary schools, it is therefore important to establish the challenges facing pre-primary school teachers in implementing the Curriculum.

There are many challenges facing teachers in the implementation of the CBC. KNUT (2019) established that there was minimal implementation of CBC in schools due to the following challenges; overcrowded classrooms due to extremely high learners' enrolment and lack permanent classrooms which has led institutions to combine some learners of different grades. The report showed that most public schools did not have PP1 and PP2 classrooms forcing learning to be undertaken

under a shade or tree. In addition, KNUT reported that majority of CBC learning areas did not have approved books, materials and delayed Government distribution of textbooks to school. It was also reported that the assessment rubrics had unclear guidelines hence teachers found it extremely difficult to assess learners' competencies and learning progress.

Finally, the report showed that CBC training sessions were inadequate, ineffective and the duration was short and lack of shareholders involvement in CBC roll-out. Though the study highlighted a number of challenges facing the implementation of CBC in Kenya, the study did not report the challenges experienced by pre-primary school teachers in specific Counties. Therefore, there was a need to conduct a study to establish the challenges teachers face in implementing the Curriculum in Nairobi City County.

Another study by Mwarari, Githui and Mwenje (2020) explored the perceived challenges of involving parents in implementation of CBC in early year's education. The study employed a cross sectional survey design which involved 335 parents from two selected counties in Kenya. A questionnaire was used to collect data from the participants. Findings showed that parents acknowledged the importance of participation in school activities and learning. However, they reported some of the factors which influenced their collaboration with schools which included: lack of time, lack of training for parents to understand what CBC is all about, lack of adequate knowledge on how to assist children and lack of resources. This means that engaging parents in learning activities as required by CBC may not be successful if the parents are not sensitized on its importance and how they need to play their

roles. The reviewed study focused on parental involvement in implementation of CBC, however, there might be many other challenges which may hinder effective implementation of the curriculum which should be established and addressed.

A survey was conducted by Andiema (2020) to determine the level of teacher capacity in the implementation of CBC in lower primary grades in Kapsaret Sub County, Kenya. The study sampled 69 special needs teachers and data was collected Using questionnaire for Special Needs Education Teachers in public primary schools. Data was analyzed using descriptive statistics and the findings showed that special needs teachers had a fair understanding of the curriculum. Further, the study reported that the enrolment of special needs learners was low which was attributed to lack of adequate capacities by the teachers to provide required support to the disabled learners. The study recommended that special needs teachers need to be provided with specialized training on CBC implementation in inclusive setting and the government should ensure facilities and resources to support inclusive education are provided. This study pointed out a number of challenges which deter implementation of CBC but it only focused on challenges faced by teachers with special needs. Therefore, it is also crucial to determine the challenges faced by other teachers who do not have special needs.

A study conducted by Sitenei (2020) investigated how school-based factors influence CBC in primary schools in Kibera Sub- County, Kenya. The researcher employed a descriptive survey research design and the results showed that majority of teachers (81.6%) attended one week training, while (18.4%) attended two weeks training. This indicated that majority of the teachers had not received adequate

training on the new curriculum. Further, it was reported that the time allocated was not adequate for the CBC lessons given the large class sizes. It was also reported that most of the schools in Kibra sub-county lacked or had inadequate materials for implementing the curriculum.

Further, the findings confirmed that the public primary schools in Kibra were very overcrowded. The classes were crowded to the extent of forcing some learners to study from outside especially during practical subjects that required demonstration. This was in a way affecting effective implementation of the curriculum. The teacher-pupil ratio 1:80 was very high hence straining the teachers' efforts in managing pupil discipline, teaching and learning as well as their teaching methodology.

The study recommended that the government through the Ministry of Education and Kenya Institute of Curriculum Development (KICD) should address the issue of competency-based curriculum implementation. Teachers training through in-service program should be urgently improved by allocating enough time on training session, the Ministry of Education through teacher service commission organizing seminars and workshops to enable teacher in-service training. Also, inadequate supply of teaching and learning materials should be addressed by the Government through the Ministry of Education in due time. The shortage of teachers in public schools the Government through the teacher employer Teacher Service Commission (TSC) employ more teachers to maintain the required teacher-pupils ratio by the Ministry of Education in public primary schools to enable effective implementation of CBC. The study highlights a number of challenges affecting the implementation

of CBC but the study only focused in lower primary grades. This means that challenges faced by pre-primary school teachers when implementing the curriculum remain unknown.

A study which was carried out by Amunga, Were and Ashioya (2020) sought to establish the CBC activities that require parental involvement and the challenges they experience in the implementation of the CBC. The study employed an exploratory research design and randomly sampled 56 lower primary teachers who were interviewed and given open ended questionnaires to fill. Results indicated that parents were not collaborating with schools in implementing the curriculum. It was reported that majority of the parents were reluctant in providing learning materials for practical lessons. The teachers reported other challenges which they faced when implementing the curriculum which included; lack of materials, lack of parental support, lack of adequate time to prepare for lessons, and large class sizes. Based on the results, the study recommended sensitization of parents, more funding by the government to build more classrooms and employment of more teachers. It is clear that teachers are facing a lot of challenges in implementing the curriculum, however, the challenges which were pointed out in the reviewed study emanated from lower primary school teachers. So, the big question is what challenges do teachers in public pre-primary schools face when implementing CBC.

A study conducted by Marion (2020) purposed to examine the challenges experienced by teachers in implementation of CBC in lower primary schools in Laikipia East Sub- County in Kenya. The study employed a descriptive survey research design and collected data using observation schedules and questionnaires.

Findings indicated that there were many challenges which were experienced by teachers as they were implementing the new curriculum. The teachers reported large class size as a serious challenge that impeded the implementation of CBC in public primary schools. In addition, teachers reported unavailability of teaching materials for practical learning areas such as Music and digital literacy was seriously impeded by the lack of adequate instructional materials. Further, the study established that infusing of digital literacy, problem solving and critical thinking competencies was challenging majority of the teachers, who indicated that they were still developing their ability. Lack of materials for digital learning was reported by majority of the teachers.

Finally, majority of the lesson plans were in line with what the CBC requires and therefore presented no challenge. However, the teachers reported that the CBC training was short and not adequate to acquire the prerequisite skills required in the implementation of CBC. The study recommended that the government should build more classrooms, provide adequate teaching-learning materials and conduct regular training of teachers. The result from the reviewed study exposes several challenges experienced in lower primary grades when implementing the curriculum. This means that CBC has not been effectively implemented in lower primary grades due to the many challenges faced by teachers. However, the findings in lower primary grades may not be generalized to pre-primary schools; therefore, it is of importance to investigate challenges faced by teachers in pre-primary schools.

2.5 Summary of Literature Review and Identified Gaps

This chapter reviewed and discussed literature related to the objectives of the current study. In general, the existing literature proved that CBC has received a good deal of attention and support globally. However, this study established that a limited number of empirical research have been conducted in Kenya in regard to implementation of CBC in schools. This means that there is need for more studies to be conducted because it is through research that we can inform policy and change.

In regard to training of teachers on how to implement CBC, a number of studies have delved to establish the extent to which teachers have been trained in the CBC and how this is affecting implementation of the curriculum. The findings revealed that majority of the teachers lacked adequate knowledge and skills on how to implement the curriculum. However, majority of the studies which were conducted in public primary schools focused on lower primary school teachers. The implication of this is that, not much is known on preparedness of pre-primary school teachers to implement CBC in public pre-primary schools.

In addition, majority of the reviewed studies collected data from respondents using questionnaires and interview schedules. This might have led to collection of self-reported data which could be biased. Therefore, apart from the questionnaires and interview schedules, the current study used observation checklist and document analysis guide. These direct methods of data collection enabled the researcher to verify the self-reported data from the respondents.

In respect to how teachers perceive CBC, the current study established that not much has been document in Kenya on how pre-primary school teachers perceive the

curriculum. This is the case because majority of the studies conceptualized teacher preparedness as teachers' knowledge and skills on how to implement the curriculum. To address the gap, the current study investigated the relationship between pre-primary school teachers' perceptions on CBC and their ability to implement the curriculum in public pre-primary schools.

In regard to teachers' technological skills, it was established that majority of the studies that exist delved to determine how teachers integrated ICT in teaching-learning in the 8.4.4 curriculum. The new curriculum advocates different teaching-learning and assessment approaches. In addition, the curriculum emphasizes on digital literacy which is one of the core competencies that learners should acquire. Therefore, it is important to find out how prepared teachers are to integrate ICT in teaching-learning in this era of CBC.

Finally, a number of studies have been conducted to establish challenges experienced in schools as they implement CBC. However, most of the studies which were carried out in public schools focused on lower primary grades. Challenges experienced in lower primary section may not be the same as those experienced in pre-primary section. Teachers in public pre-primary schools are employed by the County Government, while teachers in lower primary grades in public primary schools are employed by the Teachers Service Commission (TSC). Therefore, the terms of employment and conditions in public pre-primary schools may not be the same as those in lower primary section. Thus, it was important to establish the challenges faced by pre-primary school teachers when implementing CBC in public pre-primary primary schools.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction

This chapter presents the study methodology. It discusses the variables of the study, the location where the study was conducted, target population, sampling technique and sample size. It further confers on the instruments that were used to collect data, piloting study, validity and reliability of the instruments and techniques that were used to collect data. Finally, it describes how the data was analyzed and ethical considerations which were observed during the study.

3.1 Research Design

The study adopted a correlational research design. The design was appropriate for this study because the aim of the researcher was to establish relationships that existed between the variables under investigation, without manipulating the variables. Creswell (2015) asserts that correlational research design allows the researcher to measure variables and assesses the statistical relationship between them without necessarily controlling extraneous variables. Therefore, the design allowed the researcher to determine the relationship between teacher preparedness and implementation of CBC in public pre-primary schools without necessarily controlling extraneous variables.

In addition, the design supports use of various methods of data collection. Therefore, the researcher was able to utilize a questionnaire, interview schedules, an observation schedule and a document analysis guide to collect information from the

participants. Use of the various research instruments in collecting data, enabled the researcher to collect detailed information. It also made it possible for the researcher to triangulate the findings. As emphasized by Orodho (2014), triangulation enables researchers to identify several aspects of the variables under investigation by approaching it from different vantage points using different methods and techniques. Therefore, the researcher was able to get detailed and reliable data which provided an in depth understanding on the preparedness of pre-primary school teachers in implementation of the CBC in public pre-primary schools.

Further, the design supports use of both qualitative and quantitative research approaches. According to Creswell (2015) mixed methods approach involves collecting and analyzing both quantitative and qualitative data. Creswell explains that both approaches have their weaknesses which are offset by mixed method strategy. Therefore, the current study employed both quantitative and qualitative approaches which allowed collection of comprehensive data that provided results which provides a broader perspective on teacher preparedness and implementation of CBC in public pre-primary schools.

3.2 Variables

The independent and dependent variables are described below:

3.2.1 Independent Variables

Teacher preparedness is the independent variable. The indicators that were used to measure teacher preparedness include; the extent to which teachers had been trained in the CBC, teachers' technological skills and teachers' perceptions of the

Curriculum. The indicators were measured on an ordinal scale using a five-point Likert scale ranging from Very True=5, True=4, not sure =3, Not True=2 and No Response=1. The teachers were asked to indicate the extent to which they agree with the various statements regarding the Curriculum.

3.2.2 Dependent variable

Teachers' ability to implement CBC in pre-primary grades is the dependent variable. This was measured using the following indicators; teachers' abilities to prepare and follow CBC lesson plans, teachers' ability to integrate core competencies in instruction and teachers' abilities to assess learner's progress using assessment rubrics. The indicators were measured on an ordinal scale on a five-point Likert scale ranging from Very Well=5, Good=4, Developing =3, Needs support=2 and No Response=1. The teachers were asked to indicate the extent to which they had demonstrated ability to handle the various aspects of the Curriculum.

3.3 Location of the Study

The study was carried out in Nairobi City County. The County was purposively sampled as the study locale because of three reasons; first, it was reported that there was minimal use of competency-based approaches in most pre-primary schools in the County (KNUT, 2019). Second, the extent to which pre-primary school teachers in the County were prepared to implement CBC in public pre-primary schools was not known (Ondimu, 2018). Finally, the County is the Capital City of Kenya which is endowed with more resources and with model pre-primary schools. As such, it was expected that the pre-primary schools in this County were better placed to

implement the Curriculum. However, it was reported that they were facing difficulties in implementing the Curriculum just like the other counties. This therefore, prompted the researcher to carry out the study in Nairobi City County.

3.4 Target Population

The study targeted a population of 903 comprising of 453 pre-primary school teachers, 225 pre-primary school managers and 225 head teachers in all the 225 public pre-primary schools in Nairobi City County (Ministry of Education, 2019). Table 3.4.1 below shows the target population of public pre-primary schools in the County.

Table 3.1

Distribution of Target Population for Head Teachers, Center Managers and Pre-Primary School Teachers

School category	Number of pre-primary schools	Number of head teachers	Number of school managers	Number of pre-primary teachers	Total
Public	225	225	225	453	903

Table 3.1 shows the total target population of 903 comprising of 453 pre-primary school teachers, 225 pre-primary school managers and 225 head teachers in all the 225 public pre-primary schools in Nairobi County.

3.5 Sampling Techniques and Sample Size

This section presents the techniques that were used to draw a representative proportion of respondents from the target population as discussed below.

3.5.1 Sampling Techniques

The study employed two sampling techniques to select a representative unit of respondents who participated in the study. Purposive sampling was used to select Nairobi City County on the basis of the minimal implementation of CBC in pre-primary schools in the County and lack of adequate information on preparedness of pre-primary school teachers to implement the curriculum in public pre-primary schools.

Simple random sampling was employed to sample 20% of the total number of public pre-primary schools in the County. One head teacher, one pre-primary school manager, one Pre-primary 1 and one Pre-primary 2 teachers from each of the sampled schools participated in the study.

3.5.2 Sample Size

The study sampled 20% of the target population who participated in the study. According to Mugenda and Mugenda (2013), a sample size of 10-30 % of the target population is adequate for a study. Therefore, the study had a sample size of 180 which comprised of 90 pre-primary school teachers 45 pre-primary school managers and 45 head teachers as illustrated below:

Table 3.2

Sampling matrix

Category	Target Population	Sample size (20%)
Number of public pre-primary schools	225	45
Number of Head teachers	225	45
Number of pre-primary school managers	225	45
Number of pre-primary school teachers	453	90
Total	903	180

3.6 Research Instruments

The study used a questionnaire, interview schedules, observational checklist and a document analysis guide to collect data. The instruments were developed by the researcher and the formulation of the items was guided by the objectives of the study and the variables which were being investigated.

3.6.1 Questionnaire for Teachers

A Questionnaire (Appendix-iii) was used to collect data from pre-primary school teachers. The reasons why the questionnaire was used included; first, it allowed the researcher to collect massive information from the 90 pre-primary school teachers, second, the respondents were literate so they had the capacity of fill in the questionnaires; third, they allowed the researcher to address a large number of issues regarding the study variables and finally, questionnaires were economical as they allowed collection of large data within a short time. As highlighted by Orodho (2017), questionnaires are unique tools that can carry as much details as possible and therefore enable a researcher to collect data on a wide range of aspects on the study variables.

The questionnaire was divided into seven sections whereby the first section had items that were used to collect demographic information from pre-primary school teachers. The second section had items which measured the extent to which pre-primary school teachers had been trained in the CBC. The third section had items which were used to measure teachers' perceptions towards the CBC. In addition, the fourth section had items which were used to measure pre-primary school teachers' technological skills whereas the fifth section presented items which collected information on pre-primary school teachers' ability to prepare and follow CBC lesson plans. Further, the sixth section had items which were used to measure pre-primary school teachers' ability to infuse the core competencies in instruction and finally, the seventh section had items used to measure pre-primary school teachers' ability to assess learners' progress using assessment rubrics.

3.6.2 Interview Schedule for Head teachers and Managers

Semi-structured interview schedules (Appendix-iv and v) were used to collect qualitative data from the head teachers and center managers. The information from the interviews was crucial for this study as it provided detailed understanding to what extent pre-primary school teachers are prepared to implement the CBC in public pre-primary schools. According to Edwards and Holland (2016) interviews allow researchers to get detailed understanding of a particular problem since it allows further probing of issues that arise during the interview. Therefore, interview schedules were utilized in this study because they allowed collection of detailed information from head teachers and center managers by asking follow up questions and clarifications making the information gathered more relevant and useful.

The interview schedules had items that gathered information relating to the variables in question which included; extent to which pre-primary school teachers have been trained in CBC, how they perceive the curriculum, their abilities to prepare lesson plans, their abilities to infuse the core competencies and their abilities to use assessment rubrics. The interviews enabled the researcher to collect qualitative data that complemented the self-reported data from the questionnaires.

3.6.3 Observation Checklist

The researcher used an observation checklist (Appendix-vi) which had a list of items that the researcher assessed when observing teachers in classrooms. The observation checklist provided the researcher with a structure and framework for the observation on how pre-primary school teachers are implementing the new curriculum. Leary, (2014) asserts that observation checklist helps researchers to collect data through direct observations hence, collection of accurate data with high precision of the research results.

In this study, the researcher observed how the teachers were implementing a number of CBC indicators in classrooms. The indicators which were observed included; lesson presentation by teachers, enhancing self-efficacy among learners, infusing citizenship, learners working and solving problems in groups (communication and collaboration), learners working through word questions to apply learnt knowledge (critical thinking & problem solving), engaging learners in creative activities and displays of learners' work (creativity & imagination), key inquiry questions that prompt learners' interest in knowing what next (learning to learn) and use of digital devices in learning (digital literacy).

3.6.4 Document Analysis Guide

The researcher used a document analysis guide (Appendix-vi) to analyze five documents which included; schemes of work, lesson plans, assessment rubrics, progress records and records of work. The documents were interrogated and interpreted by the researcher. This gave more understanding to what extent the pre-primary school teachers are implementing the CBC in pre-primary schools. Leary (2014) asserts that document analysis will provide background information and broad coverage of data thereby contextualizing the research.

3.7 Pilot Study

In this study, pre-testing of research instruments was carried out in two (2) public pre-primary schools in Nairobi City County; the two schools were not involved in the main study. This exercise helped the researcher to determine challenges that were likely to be encountered during the main study. Also, the exercise enabled the researcher to assess whether the items in the research instruments adequately covered all the variables in question. Where necessary, more items were constructed to fill the identified gaps. In addition, the pilot study helped the researcher to identify vague questions, which were rephrased to ensure relevance and clarity. Finally, the exercise helped the research to ascertain whether the proposed methods of collecting data and analysis were appropriate. Mugenda and Mugenda (2013) emphasizes that piloting is a significant step in research. It enabled the researcher to determine validity and reliability of the instruments and unravel problems that participants were likely to encounter when giving information. Therefore, feedback

from the pilot study informed the reshaping of the instruments that were used to collect data in the main study.

3.8 Validity and Reliability of the Research Instrument's

Validity and reliability of the instruments that were used to collect data from respondents were established as described below;

3.8.1 Validity

This study used content validity to assess the extent to which the research instruments measured what they were supposed to measure. This was achieved in the following ways; first, the researcher carefully studied all the items in the instruments and scrutinized how well each question measured the construct in question. Second, peers were also used to establish the content validity of the instruments, they were given the instruments which they went through to ensure that the questions were relevant and adequate. Third, expert judgment on the ability of the instruments was also sought. The subject-matter experts from the department of Early Childhood Education reviewed all items in the instruments for adequacy, relevancy and clarity.

Finally, data obtained from the instruments was triangulated. This was achieved by carefully reviewing the similarity of the data obtained by the four research instruments in the pilot study. The researcher checked if the results from the various instruments arrived at the same conclusion. Any inconsistencies identified were corrected and the researcher ensured that all the study variables were adequately covered and that all items were clear and relevant before the main study.

3.8.2 Reliability

Split half method was used to check for the internal consistency of the items in the questionnaire. To achieve this, the items in each section of the questionnaire were split into two sets, the odd and even numbers. Cronbach's alpha was computed for each set and the relationship between the two set of scores was examined. Cronbach's alpha correlation coefficients which were more than .70 were considered adequate to confirm the reliability of the questionnaire as illustrated in table 3.3 below:

Table 3.3

Results of Reliability Tests

Research Variable	Cronbach's Alpha Index (α)	Comment
Pre-primary teachers' extent on training	0.798	Reliable
Teacher's Technological Skills	0.803	Reliable
Teacher's Perception	0.811	Reliable
Implementation of CBC	0.786	Reliable
Average Score	0.799	Reliable

The result from reliability was given as follows; Pre-primary teachers' extent on training, teacher's technological skills, teacher's perception and implementation of CBC with Cronbach alpha values as 0.798, 0.803, 0.811 and 0.786 respectively produced using SPSS 21.0. The average alpha coefficient for every individual variable was above 0.7 which satisfies the recommendation made by Mugenda and Mugenda (2013) that an alpha coefficient score of above 0.7 shows that the

instruments are highly reliable. Therefore, the average score of Cronbach's Alpha Index (α) value of 0.799 obtained was thus acceptable.

3.9 Data Collection Techniques

On the scheduled dates, the researcher with the help of two research assistants visited each of the 45 pre-primary schools in the County, whereby one school was visited in a day. The data collection exercise commenced by talking with the head teachers who introduced us to the center managers. After the introduction, the center managers directed us to the classrooms and briefed the teachers the reason for our visit. The researcher talked briefly about the exercise and gave the participants the consent forms which they went through and signed before participating in the study.

Immediately after signing the consent forms, the researcher got into PP1 classroom while the two research assistants attended lessons in PP2 classroom. We began collecting data using the observation checklist. This was done by observing how the teachers were teaching as we recorded the indicators which were being implemented and those which they were not implementing. Subsequently, we scrutinized their schemes of work, lesson plans, assessment rubrics, progress records and records of work. The information regarding the documents was recorded in the document analysis guide.

After completing making observations and analyzing documents, we administered the questionnaires to the teachers which they were requested to fill during break time and handed back after break time. After collecting the questionnaires and having completed the observations and analyzing documents, we conducted

interviews beginning with the center manager, followed by the head teacher. Responses from the interviews were recorded on the interview schedules and audio recording was done as well to avoid biasness. This exercise was repeated in all the 45 public pre-primary schools which lasted for one and half months.

3.10 Data Analysis

The data collection exercise came to an end after two months. After that, the researcher with the help of the research assistants started sorting out the research instruments, which involved checking whether all the sections in the tools were filled. After that, the quantitative data from the questionnaires was coded and entered in the Statistical Package for Social Sciences (SPSS) version 21. Accuracy of the data entry was confirmed before running any test by checking missing data and inspecting the minimum and maximum value for each variable. This ensured that all values for each variable were valid by not having a value that exceeds the scale used to measure.

After data entry, descriptive statistics mainly percentages and frequencies were used to summarize the data. After running the descriptive statistics and obtaining the percentages and frequencies, the researcher conducted the chi-square test which was guided by the following hypotheses;

H₀₁ There is no significant relationship between pre-primary school teachers' extent of training in CBC and level of ability to implement CBC at 0.05 level of significance.

H₀₂ There is no significant relationship between pre-primary school teachers' technological skills and their level of ability to implement CBC at 0 .05 level of significance.

H₀₃ There is no significant relationship between pre-primary school teachers' perceptions on CBC and their level of ability to implement CBC at 0.05 level of significance.

Variables involved were all categorical, this informed the use of Chi-square test to test these hypotheses at 0.05 level of significance. Chi-square test was utilized by this study because Creswell (2014) asserts that it is the most common measure used to establish the relationships between categorical variables. This (0.05) level of significance was used in this study as it is the conventional threshold that is commonly used for declaring statistical significance. As elucidated by Orodho (2017), 0.05 level of significance means that there is 5% probability that the test will suffer from type I or type II error.

The second stage of the analysis involved analysis of qualitative data. The qualitative data was analyzed thematically; first the researcher familiarized with the data collected from the interview schedule and audio recordings. Transcription was done with the help of the research assistants by listening to the audios and taking notes as we made preliminary codes which were used to describe the content. After generating codes, the researcher went through the list of codes and collated them in order to generate themes in regard to the study objectives. The themes were reviewed to ensure that data that was within the themes cohere together meaningfully with clear distinction between the themes. The themes were described

and the data obtained was used to compliment and expound on the meaning of quantitative data from the questionnaires. The voices of the interviewees were captured in the analysis.

3.11 Logistical and Ethical Considerations

The researcher adhered to the following logistical and ethical considerations;

3.11.1 Logistical Considerations

The researcher got approval from Graduate School Board, Kenyatta University, after which proceeded to seek for a research approval from the National Commission for Science, Technology and Innovation (NACOSTI). After getting approval from Graduate school Kenyatta University and NACOSTI, the next step was to seek permission from the Nairobi City County Education Office to be allowed to collect data from the public pre-primary schools in the County. Creswell (2014) emphasizes that a researcher should get permission from authorities before gaining access to respondents in the study locale.

After obtaining approval from the relevant authorities, the researcher printed adequate copies of the research instruments and packed them in water proof boxes where they could not be damaged by bad weather conditions or dust. After which the researcher identified two research assistants who helped in the data collection exercise. The research assistants are masters' students in Kenyatta University, who had already done their research work and submitted their work for examination. Therefore, they had experience on collecting data. The research assistants were taken through a training which lasted for a day. During the training, the researcher

explained to them what the research was about and how it was to be carried out. Further the researcher took them through the research instruments for them to familiarize with the tools and understand all the items in the instruments before participating in the data collection exercise. According to Orodho (2017), research assistants should be trained on the data collection exercise if credible data is to be collected from respondents.

After training the assistants, the researcher made preliminary contacts with the head teachers to create rapport and familiarize with the school environments. The head teachers were requested to set dates when the researcher and research assistants would visit the respective schools to collect data.

3.11.2 Ethical Considerations

The sampled participants were informed about the purpose of the study, how long it would take and what they were expected to do. Also, the respondents were given chances to ask questions or raise any concerns that they had regarding the exercise, the researcher provided honest feedback to their questions and concerns.

The respondents' autonomy was respected. This was observed by allowing them to voluntarily participate in the study. They were provided with consent forms which had detailed information about various aspects of the study, they were given time to go through them and confirmed that they were willing to participate by appending their signatures. The researcher also made it clear to the respondents that they would withdraw at any time for any reason that could make them feel they could not go on with the exercise.

The researcher ensured anonymity of respondents. They did not indicate their names on the research instruments. Where necessary, pseudonyms were used to achieve anonymity. Concealing the participants' names was meant to give out honest information freely without fear of any consequences.

The researcher highly upheld confidentiality in the study. The respondents were assured that the information obtained from them, would only be used by the researcher for the purpose of this study. Further, the researcher ensured that all the instruments with responses from the participants were kept private and were only used to inform this study.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents the findings of data collected from the field. The findings are presented according to the study objectives which include:

- i. To establish the relationship between pre-primary school teachers' extent of training in CBC and their ability to implement the CBC in Nairobi City County public pre-primary schools
- ii. To determine the relationship between pre-primary school teachers' perceptions towards CBC and their ability to implement the CBC in Nairobi City County public pre-primary schools
- iii. To assess the relationship between teacher's technological skills and their ability to implement the CBC in Nairobi City County public pre-primary schools
- iv. To establish the challenges teachers, face in implementation of the CBC in Nairobi City County public pre-primary schools

In this chapter, the response rate is given first followed by background information of the respondents, then findings are presented according to the objectives where by descriptive statistics are presented first followed by inferential analysis.

4.2 Response Rate

The study sample size was 180 respondents comprising of 45 head teachers, 45 center managers and 90 pre-primary school teachers. Their response rate is presented in Table 4.1.

Table 4.1

Response Rate

Category	Respondents Sampled	Respondents who Participated	Achieved (%)	Rate
Pre-primary school teachers	90	88	97.8	
Head teachers	45	44	97.8	
Center Managers	45	44	97.8	
Total	180	176	97.8	

Table 4.1 shows that out of 90 pre-primary school teachers, 88 responded forming a response rate of 97.8%. The head teachers and centers managers had a response rate of 97.8% respectively. The researcher found this response rate as adequate and suitable to carry on with the data analysis as recommended by Fincham (2016), who asserts that a response rate of 75% and above is adequate for generalization of the outcomes to the target population.

4.3 Demographic Information

On the demographic information of the respondents, the study sought information on the respondents' gender, age, level of education and teaching experience. The results which were obtained are presented in the subsequent sections.

4.3.1 Gender

The study sought to find respondents' gender. The obtained data is presented below;

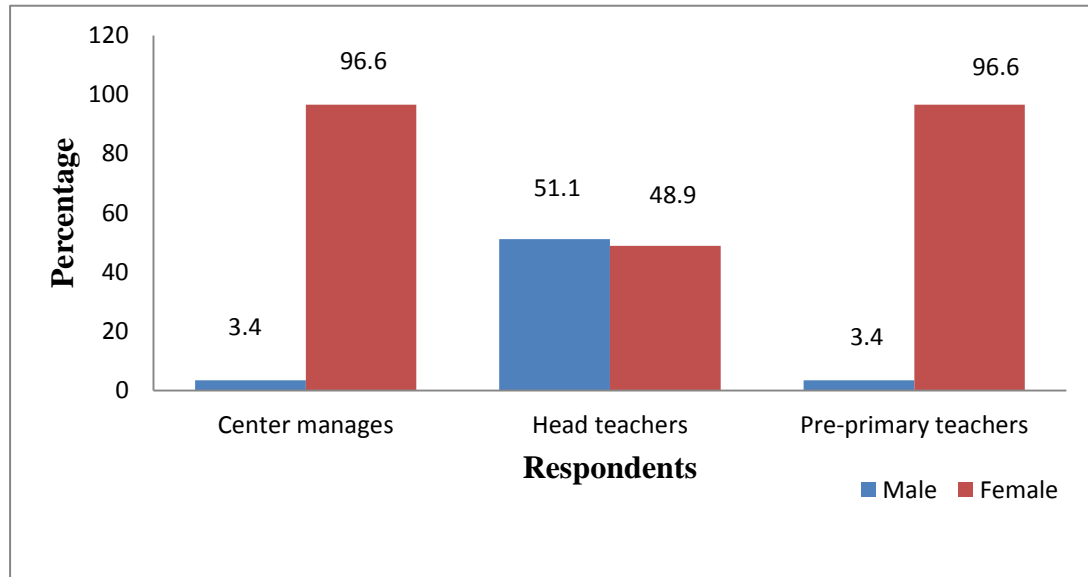


Figure 4.1: Respondents' Gender

Figure 4.1 indicates that majority (96.6%) of the center managers and pre-primary school teachers were female respectively and 3.4% accounted for male center managers and pre-primary school teachers respectively. Majority (51.1%) of the head teachers were male while 48.9% were female. The results, shows that gender inequality existed in public pre-primary schools where by most of the respondents were female. These findings concur with Wambiri and Ndani (2014) and Murage (2015) who reported that most pre-primary school teachers in Kenya were female. Similarly, a study by Abdullahi (2020) revealed that majority of public pre-primary school teachers in Garissa County were female. The reason as to why this is the case could be because most people perceive or associate Early Childhood Education (ECE) with female gender, therefore majority who enroll for the course are female.

4.3.2 Age

The study sought to establish respondents age as discussed below:

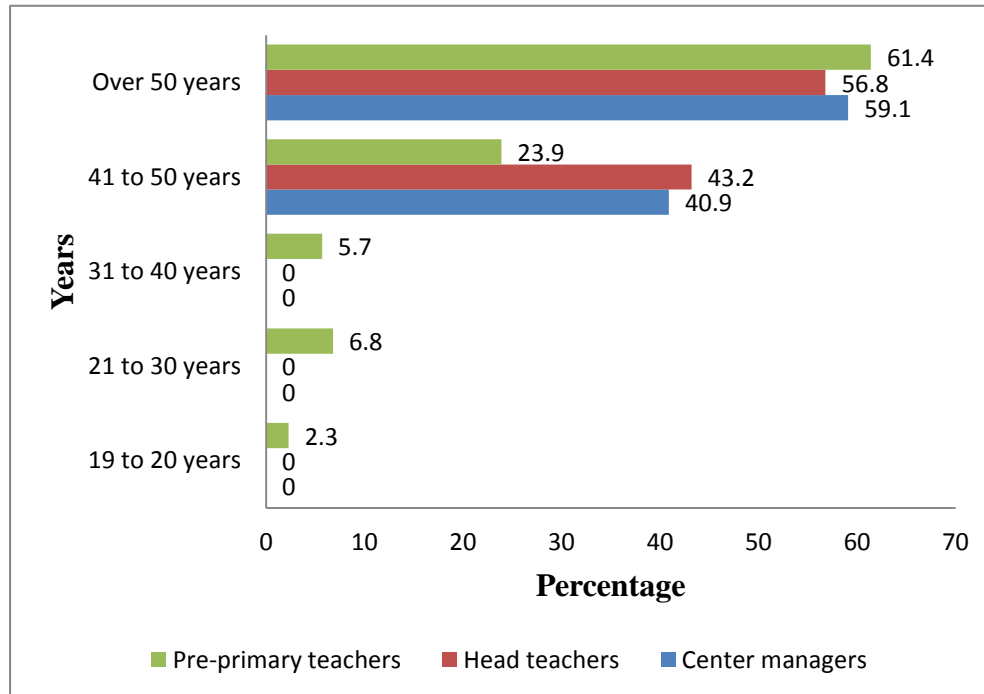


Figure 4.2: Respondents' Age

Figure 4.2 indicates that a large number of the respondents involved in the study were aged over 50 years as represented by 61.4% for the pre-primary school teachers, 59.1% center managers and 56.8% head teachers. This was followed by respondents aged between 41 and 50 years where by head teachers were the majority with 43.2% followed by center managers at 40.9% and pre-primary school teachers at 23.9%. Further, 6.8% of the pre-primary school teachers were aged between 21 to 30 years, 5.7% of the pre-primary school teachers were aged between 31 to 40 years while those pre-primary school teachers aged between 19 to 20 years constituted 2.3%. The study established that neither of the center managers nor the head teachers were aged below 40 years. Age diversity was important to the study as it

brings about different experiences, expectations and perspective in the implementation of CBC in public pre-primary schools. Therefore, it can be concluded that since center managers, head teachers and pre-primary school teachers are charged with the responsibility of implementation of the CBC in their schools, the above observation indicates that implementation of CBC in Nairobi City County has been entrusted to mature persons who have not only gathered school management experience but had also been in the teaching service long enough to understand the implementation of educational policies and curricular.

4.3.3 Level of Education

The study sought to establish respondents' level of education as discussed below:

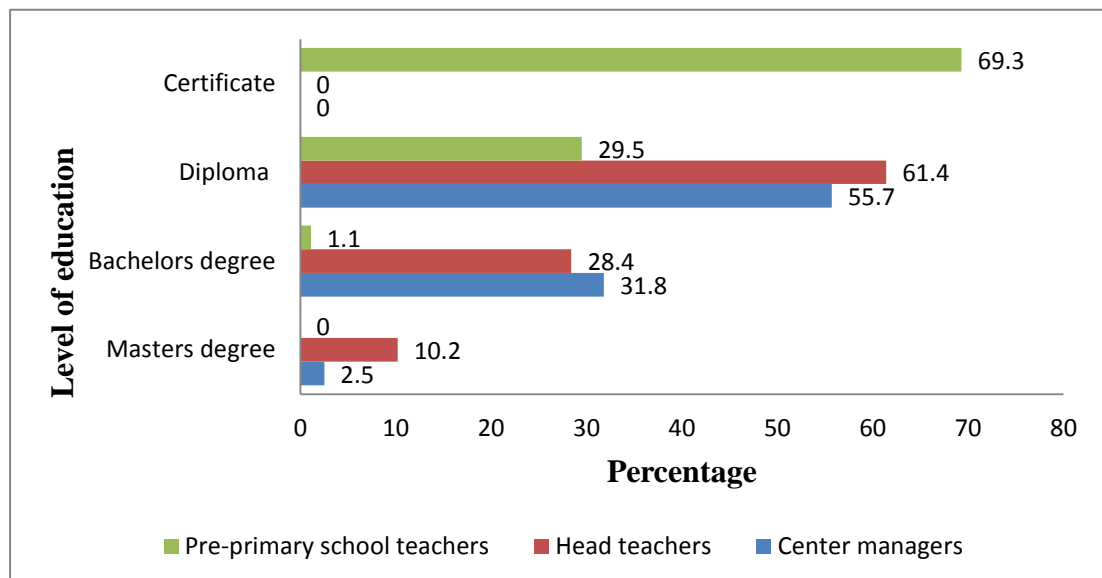


Figure 4.3: Respondents' Highest Level of Education

The results in figure 4.3 indicate that majority (69.3%) of the pre-primary school teachers had certificate level of education, 29.5% had diploma, 1.1% had bachelor's degree. Head teacher with diploma formed majority at 61.4% compared to center

managers at 55.7% and pre-primary school teachers at 29.5%. Most (31.8%) of the respondents with bachelor degree were center managers followed by head teachers at 28.4% and pre-primary teachers at 1.1%. Head teachers with master's level of education accounted majority at 10.2% followed by center managers with master's level of education at 2.5%, whereas none of the pre-primary school teachers had attained a master's level of education. Based on the results, it can be concluded that all the participants were trained teachers however; it was observed that most of the pre-primary school teachers in public pre-primary schools do not advance their education. This could be due to lack of motivation as a result of poor remuneration by the County Government. Teachers' level of education matters because it influences their ability to impart knowledge in the learners. The findings of this study show that all of the pre-primary school teachers had the required professional qualifications for them to teach in pre-primary school level. This is likely to influence implementation of CBC positively as elucidated by Penuel, Fishman, Yamaguchi and Gallagher (2017) that teachers who are professionally qualified tend to associate and commit themselves more to curriculum implementation requirements.

4.3.3 Teaching Experience

The study sought to establish from pre-primary school teachers, the number of years they had taught in pre-primary grades. The findings are presented in Figure 4.4.

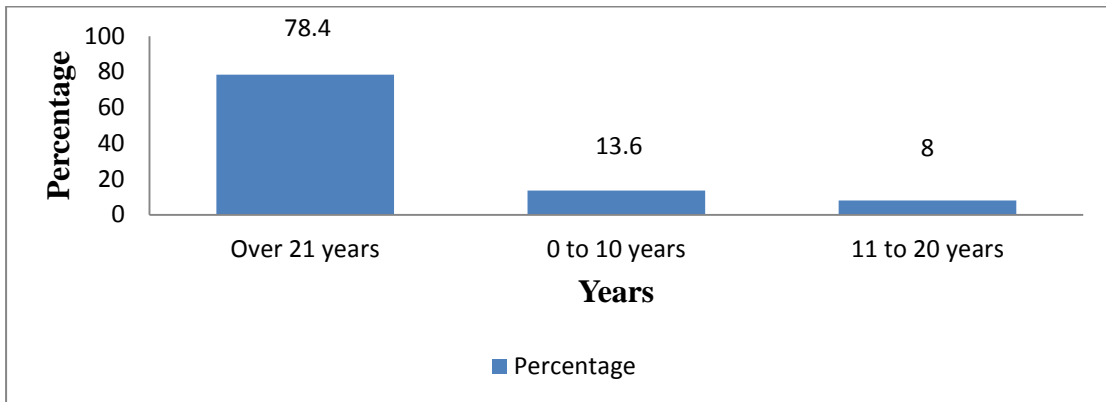


Figure 4.4: Number of Years Taught in Pre-primary

Figure 4.3 indicates that majority (78.4%) of the pre-primary school teachers had taught for a period of more than 21 years, 13.6% for 10 years and below and 8% between 11 to 20 years. These results confirm that the most of the pre-primary school teachers in public pre-primary schools had taught for a longer period of time. With regard to this study, the teachers' working experience symbolizes their capacity to organize pedagogical practices effectively to implement CBC.

4.4 Objective 1: Relationship between Pre-Primary School Teachers' Extent of Training in CBC and Its Implementation

The study aimed to establish the extent to which teachers had been trained on the CBC and how this influenced their ability to implement the curriculum in public pre-primary schools in Nairobi City County, Kenya. The teachers' extent of training on CBC was measured by checking whether pre-primary school teachers had attended any training on CBC, how many times they attended such training, how long was the training sessions, how frequent was the training conducted, CBC areas covered in the training and the extent to which they were able to handle tasks relating to the areas covered in the training.

Descriptive statistics mainly percentages and frequencies were used to summarize the data and presented in pie charts, figures and tables, whereas the hypotheses were tested using chi-square test. The analysis was facilitated by the Statistical Package for Social Sciences (SPSS) version 21. The results are presented as follows.

4.4.1 Number of Pre-Primary School Teachers who had been trained on CBC

The study sought to find out whether pre-primary school teachers in public pre-primary schools ever attended any training on CBC. The respondents were asked to indicate in the questionnaire if they had been trained on CBC or not. Further, the headteachers and center managers were also asked whether the pre-primary school teachers had been trained on how to implement the Curriculum. The findings are as shown in Figure 4.5.

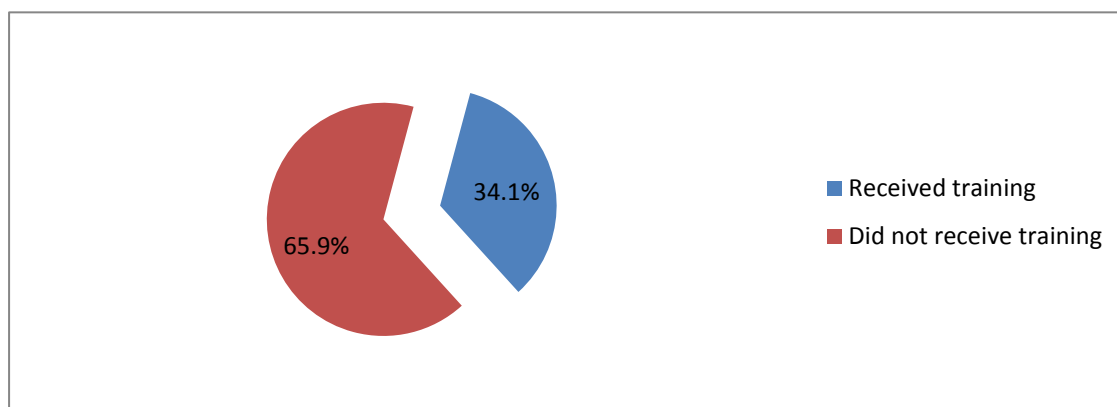


Figure 4.5: Number of Teachers who had been trained on CBC

The results in Figure 4.5 show that majority (65.9%) were not trained on CBC while 34.1% were trained. These results indicate that majority of the pre-primary school teachers had not received any training on CBC. This means that training on CBC has not been to a large extent done in public pre-primary schools. This was also

confirmed from the interviews where by some head teachers and ECD center managers indicated that majority of the teachers in public pre-primary schools had not received training on how to implement the curriculum as reported:

“Pre-primary school teachers lack adequate understanding about CBC, this is because they were not included in the trainings which were being conducted by KIE, TSC and KNEC which the pre-primary teachers are not part. This is because ECD is under the County Government of Nairobi. The few pre-primary school teachers who have been trained on the curriculum are those who were teaching in lower primary in other schools before being employed by the County to teach in preschool” Head teacher 1

“The preschool teachers have not undergone as much training as teachers in primary grades. We have not been trained but we were asked by the Ministry officials to say that we have been trained whenever we are asked.” Center Manager 1

“Majority of the teachers in preschools have not been trained. For instance, in this school, am the only one who attended two trainings on implementation of the Curriculum and I can’t say I gained so much from the training. I still need more training so that am able to also trained my fellow teachers” Center manager 2

“Most of us have not been trained, we just hear much about the curriculum from other teachers in lower primary grades and from our friends in private schools. In fact, what is helping us are the skills we acquired from Tayari and Tusome Programme.” Center manager 3

These findings concur with findings reported by Waweru (2018) who conducted a study which examined the extent to which lower primary school teachers were trained to implement the CBC in Nyandarua North Sub- County, Kenya. Results showed that 98.8% of the teachers were not trained to implement the curriculum especially in the new learning areas. Similarly, KNUT (2019) examined the extent to which primary school teachers had been trained in implementing the CBC and revealed that majority of the teachers had not received any training on the new curriculum. Further, the findings concur with the findings by Abdullahi (2020) who

investigated school factors influencing the implementation of CBC in pre-schools in Garissa Sub-County, Kenya. The study established that majority (68%) of teachers in public schools had not attended any training on how to implement the new curriculum.

Also, these findings are in agreement with the findings of Molapo (2018) that sought to establish how grade 3 teachers in Limpopo primary schools in South Africa implemented the new curriculum. The study reported that majority of the grade three teachers lacked the required skills and knowledge on how to implement the curriculum and this hindered the implementation process. In addition, the findings agree with Kanyonga, Maatana and Wendit (2019), who reported that majority of the trainers had little knowledge and skills in infusing the core aspects of the curriculum in Arusha, Tanzania. In addition, Makunja (2016) study on adopting competence-based curriculum to improve quality of secondary education in Tanzania found that teachers, who are the major implementers lacked knowledge and skills for implementing the curriculum effectively and recommended that efforts be made by the government to conduct immediate and regular in-service training to teachers to equip them with necessary knowledge and skills for implementing CBC efficiently and effectively.

Therefore, the high number of pre-primary school teachers who have not been trained on CBC implies that majority of the teachers lack adequate knowledge and skills on how to implement the curriculum. Hence, hindering effective implementation of the CBC in public pre-primary schools.

4.4.2 Number of Trainings on CBC

The study sought to find out the number of times the pre-primary school teachers attended CBC training. The respondents were asked to indicate in the questionnaire whether they have been trained once, twice, thrice or more than three times. The findings are presented in Table 4.2.

Table 4.2

Number of Trainings on CBC

Number of trainings attended by teachers	Number of teachers	Percentage (%)
Once	12	40.0
Twice	10	33.3
Thrice	7	23.3
More than three times	1	3.3
Total	30	100

Table 4.2 shows that majority 12(40.0%) of the respondents had received training on CBC only once, 10(33.3%) twice, 7(23.3%) thrice and 1(3.3%) more than thrice. This is an indication that pre-primary school teachers in public pre-primary schools in Nairobi County had not received adequate training on CBC, because majority of the teachers who had been trained had only received one training. This finding was also echoed by the head teachers and center managers who reported that majority of the pre-primary school teachers had not received adequate training as reported;

“Majority of the ECDE teachers have not been trained on CBC. The trainings are conducted by T.S.C and they base it mostly on primary

*schools because the ECDE section is under the County Government”
Head teacher 3*

“A few of the preschool teachers attended the first trainings, afterwards, they stopped inviting teachers from preschools because they said that we should be trained by the County Government.” Center manager 3

The findings are in line with Waweru (2018) who conducted a study in Nyandarua North Sub- County, Kenya and established that majority of the lower primary school teachers had attended only one training on CBC; as such, they lacked proper grasp and understanding on how to implement the curriculum. Similarly, Ondimu (2018) examined teachers’ readiness to implement the CBC in private preschools in Dagoretti North Sub- County, Nairobi County. The study reported that majority of the teachers had not received adequate training in the CBC where by majority (35.2%) had attended only one training in CBC, 25.8% had attended two in-service training in CBC and 9.7% had attended more than five trainings in implementation of the CBC. According to Brand (2018) lack of teacher training is one of the greatest roadblocks to implementation of curricula in learning institutions. On the same breath, Boe (2017) emphasizes that teachers must have substantial and constant training if they are going to acquire and, in turn, transfer to the classroom the knowledge and skills necessary to effectively and completely infuse their skills into curriculum implementation.

Therefore, since majority of the pre-primary school teachers had attended training on CBC only once, it means that the teachers in public pre-primary schools lack adequate knowledge and skills on how to implement the curriculum. This implies that they are not able to implement the curriculum effectively, therefore, they require more training on how to implement the curriculum.

4.4.3 Frequency of the CBC Training

The study sought to find out how frequent the pre-primary school teachers in public pre-primary schools were trained on CBC. This information was collected using a questionnaire whereby the respondents were asked to indicate how frequently they attended the training on CBC. The frequency of attending such training is presented in table 4.3:

Table 4.3

Frequency of the CBC Training

Frequency	Number of teachers	Percentage (%)
Monthly	0	0.0
Termly	24	80.0
Yearly	6	20.0
Total	30	100

The results in Table 4.3 show that a large number 24(80.0%) of the respondents attended training termly whereas 6(20.0%) indicated that they attended the training yearly. This shows that majority of the training on the curriculum was carried out termly and none was conducted monthly. It is therefore expected that those teachers who attended the training termly were better placed to implement the curriculum compared to those who attended the training once in a year. This was also reported by the head teachers and center managers who also indicated that the training was done on a termly basis as reported:

“The teachers are normally called for such training when schools are closed and this happens termly. However, some of the teachers are reluctant to attend the training because of lack of facilitation like provision of transport”
Head teacher 4

*“Mostly the national government used to do the training termly but it reached a point when we were no longer being invited for the training, reason being we belong to the County Government. This means that the Nairobi County should organize for similar training for us so that we can be at the same level as our colleagues in lower primary and primary grades”
Center Manager 4*

This is a clear indication that pre-primary school teachers have not received adequate training on how to implement the curriculum. The findings concur with the findings reported by Kisirkoi and Kamanga (2018) who delved to determine primary school teachers’ preparedness to implement CBC in Narok County, Kenya. Findings from the study indicated that majority 13(86.7%) of the teachers agreed that they did not gain much from the inadequate training hence they were not adequately prepared to implement the curriculum. Omar (2014) study on the need for continuous in-service training for teachers and its effectiveness in school observed that the effectiveness of in-service training is important so that teachers can apply the knowledge acquired in teaching and learning. Similarly, Bennett (2017) study on teacher efficacy in the implementation of new curriculum supported by professional development found that frequent teacher training towards professional development is seen as the common thread that motivates teachers, improve their sense of efficacy and assists them in successful curriculum implementation. This means that the CBC training should be conducted more frequently to help the teachers grasp the required skills to implement the curriculum.

Based on the obtained results, we can conclude that majority of the pre-primary school teachers in public pre-primary schools have not been given adequate opportunity to learn more about the new curriculum. The implication of this is that

the curriculum will not be effectively implemented in public pre-primary schools. Consequently, learners in public pre-primary schools will not acquire the set values, skills and competencies, thus, affecting their personal development and economic development of the country.

4.4.4 Duration of the CBC Training Sessions

The study sought to establish the duration of CBC training, participants were asked to indicate how long each training lasted and the findings are presented in Table 4.4.

Table 4.4

Duration taken by CBC Trainings

Duration	Number of teachers	Percentage (%)
Half a day	4	13.3
One day	3	10.0
Two days	1	3.3
Three days	1	3.3
Four days	2	6.7
One week	17	56.7
More than a week	2	6.7
Total	30	100

The results in Table 4.4 shows that majority 17(56.7%) of the respondents indicated that the training sessions that they attended lasted for one week, 4(13.3%) half a day, 3(10.0%) one day, 2(6.7%) more than a week, 1(3.3%) four days and two days respectively. This shows that majority of the teachers were trained for a whole week, which means that they were better equipped with skills to implement the curriculum compared to those who received a half day training. This finding contradicts with the findings by Waweru (2018) who conducted a study which examined the extent to which lower primary school teachers were trained to implement the CBC in

Nyandarua North Sub- County. The findings showed that majority (72.8%) of the teachers attended half-day training, thus they did not benefit much from the training. Similarly, the findings contradict with KNUT (2019), which conducted a study that examined the extent to which teachers had been trained in implementing the CBC and reported that the training was conducted once in two to three days, which was not beneficial to the teachers. Further, the findings contradict with the findings of a study carried out by Paulo (2018) on pre-service teacher's preparedness to implement competence-based curriculum in secondary schools in Tanzania, which found that majority (90.4%) of the pre-service teachers were trained only once and the training lasted for only three days. Further, Paulo reported that although the teachers were aware of the new teaching and assessment methods stipulated to be used for the implementation of competence-based curriculum, they were not adopting the envisaged methods in their classroom practices due to lack of adequate knowledge and skills. This implies that inadequate training of teachers will hinder them from adopting and implementing the curriculum. This means that pre-primary schools teachers need to get more training which should last long enough to help them obtain a solid base of essential knowledge and skills on how to implement the curriculum.

4.4.5 Areas Covered During the CBC Training

The respondents were given a list of areas related to CBC to indicate whether they were trained on them and the number of times they had been trained on each of the areas. The findings are presented on Table 4.5.

Table 4.5**Areas Covered During the Training**

Topics	Number of times	Number of teachers (f)	Number of teachers (%)
Schemes of work preparation	once	21	70.0
	twice	8	26.7
	above 3 times	1	3.3
Lesson plan preparation	once	26	86.7
	twice	3	10.0
	above 3 times	1	3.3
Learning areas	once	29	96.7
	twice	1	3.3
	above 3 times	0	0.0
Writing learning outcomes	once	22	73.3
	twice	8	26.7
	above 3 times	0	0.0
Core-competences	once	21	70.0
	twice	9	30.0
	above 3 times	0	0.0
Engaging parents	once	17	56.7
	twice	12	40.0
	above 3 times	1	3.3
Pertinent and contemporary issues	once	16	53.3
	twice	15	46.7
	above 3 times	0	0.0
Community Service learning	once	19	63.3
	twice	11	36.7
	above 3 times	0	0.0
Non-formal service activity to support learning through application	once	26	86.6
	twice	4	13.4
	above 3 times	0	0.0
Assessment Rubrics	once	25	83.3
	twice	5	16.7
	above 3 times	0	0.0
Formative assessment	once	19	63.3
	twice	11	36.7
	above 3 times	0	0.0
Summative assessment	once	23	76.6
	twice	7	23.4
	above 3 times	0	0.0

The results in Table 4.5 indicate that the teachers who attended the training were taken through various aspects of the Curriculum. However, the training was not

adequate as indicated by majority of the teachers who reported that they had received training on the various areas of the Curriculum once. This was evident where the results confirms that a large 21(70.0%) number of respondents agreed that they had been trained on schemes of work preparation once, followed by 8(26.7%) who had been trained between twice and 1(3.3%) above three times.

The same trend was observed in regard to preparing lesson plans, where by majority 26(86.7%) indicated that they had been trained on how to prepare CBC lesson plans once. They were followed by 3(10.0%) who had attended twice and 1(3.3%) above three times. In regard to training on learning areas, majority 29(96.7%) of the respondents indicated that they had been trained on how to handle the learning areas once and 1(3.3%) had been trained twice.

In addition, majority 22(73.3%) of the respondents had been trained on how to write learning outcomes once, followed by those who had been trained twice at 8(26.7%). In regard to training on core competencies, majority 21(70.0%) of the respondents had been trained once and those trained twice accounted for 9(30.0%).

Further, majority 17(56.7%) of the respondents were trained on how to engage parents once, 12(40.0%) twice and 1(3.3%) above three times. The respondents also indicated that majority 16(53.3%) of them had received training on pertinent and contemporary issues once while 15(46.7%) had been trained on pertinent and contemporary issues twice.

Similar observations were made in regard to training on community service learning where by majority 19(63.3%) of the respondents indicated that they were trained on

community service learning once and 11(36.7%) twice. Also, in regard to training on no-formal learning, majority 26(86.4%) of the respondents indicated that they had been trained on non-formal service activity to support learning through application once and 4(46.6%) twice.

Finally, on assessment of learners, majority 25(83.3%) of the respondents had been trained on how to use assessment rubrics once, followed by 5(16.7%) who had been trained twice. On formative assessment, majority 19(63.3%) of the respondents had been trained on how to conduct formative assessment once, whereas 11 (36.7%) had been trained on the same twice. In regard to summative assessment, majority 23(76.6%) had been trained on how to do summative assessment once, whereas 7(23.4%) had been trained on how to do summative assessment twice

The above results indicate that majority of the pre-primary school teachers had not received adequate training on how to implement the various areas of the Curriculum. These findings corroborate with the findings of a study by Waweru (2018) who reported that majority (72.8%) of the teachers attended half-day training, thus they did not benefit much from the training. The same was echoed by KNUT (2019) which reported that many teachers received inadequate training which was conducted once, thus giving teachers a raw deal. Similarly, findings from a case study which was conducted by Kisirkoi and Kamanga (2018) in Narok County established that all the 15 (100%) teachers did not receive continuous training on CBC, thus they lacked adequate understanding on how to implement the curriculum.

Lack of adequate training has been identified as the major factor influencing implementation of the CBC as reported by Handwe and Mpofo (2017), who

investigated teacher preparedness to implement a newly developed grade three curriculum in Zimbabwe. The findings showed that the implementation process was not successful because the training which teachers underwent was not adequate to address their needs regarding how to effectively implement the curriculum.

Therefore, lack of regular training on CBC will lead to lack of teachers who have adequate knowledge on the curriculum and teaching approaches. What this means is that, the implementation of CBC in public pre-primary schools will face hiccups because the few teachers who have attended the training workshops have not been adequately trained.

4.4.6 Ability to Handle Tasks Related to Areas Covered During the Training

The study sought to establish if the trained teachers benefited from the CBC training which they had attended. This was achieved by asking the respondents to indicate the extent to which they could handle various tasks related to the areas covered during the training. To determine whether there were any differences in terms of abilities between those who attended the training and those who did not, the teachers who had not attended any training on CBC were also asked to indicate the extent to which they could handle the same tasks. The findings are presented on Table 4.6.

Table 4.6

Ability to Handle Tasks Related to Areas Covered During Training

Area	Ability of trained (30) teachers to handle the tasks	Ability of non-trained (58) teachers to handle the task
Schemes of work preparation	Easily without support 16(53.4%) I can handle with support 9(30.0 %) I have difficulties even with support 4(13.3%) I cannot handle at all 1(3.3%) No Response 0(0.0%)	Easily without support 1(1.7%) I can handle with support 12(20.7%) I have difficulties even with support 30 (51.7%) I cannot handle at all 15(25.9%) No Response 0(0.0%)
CBC Lesson plan preparation	Easily without support 18(60.0%) I can handle with support 6(20.0%) I have difficulties even with support 4(13.3%) I cannot handle at all 2(6.7%) No Response 0(0.0%)	Easily without support 5(8.6%) I can handle with support 16(27.6%) I have difficulties even with support 31(53.5%) I cannot handle at all 6(10.3%) No Response 0(0.0%)
Learning areas	Easily without support 21(70.0%) I can handle with support 7(23.3%) I have difficulties even with support 1(3.3%) Cannot handle at all 1(3.4%) No Response 0(0.0%)	Easily without support 10(17.2%) I can handle with support 18(31.0%) I have difficulties even with support 14(24.2%) I cannot handle at all 16(27.6%) No Response 0(0.0%)
Writing learning outcomes	Easily without support 21(70.0%) I can handle with support 7(23.3%) I have difficulties even with support 2(6.7%) Cannot handle at all 0(.00) No Response 0(0.0%)	Easily without support 7(12.1%) I can handle with support 23(39.6%) I have difficulties even with support 21(36.2%) I cannot handle at all 7(12.1%) No Response 0(0.0%)
Core-competences	Easily without support 5(16.7%) I can handle with support 19(63.3%) I have difficulties even with support 2(6.7%) I Cannot handle at all 4(13.3%)	Easily without support 5(8.6%) I can handle with support 8(13.8%) I have difficulties even with support 26(44.8%) I cannot handle at all 19(32.7%)

	No Response 0(0.0%)	No Response 0(0.0%)
Engaging parents	Easily without support 18(60.0%) I can handle with support 7(23.3%) I have difficulties even with support 2(6.7%) I Cannot handle at all 3(10.0%) No Response 0(0.0%)	Easily without support 11(18.9%) I can handle with support 13(22.4%) I have difficulties even with support 18(31.0%) I cannot handle at all 16(27.7%) No Response 0(0.0%)
Pertinent and contemporary issues	Easily without support 8(26.7%) I can handle with support 11(36.7%) I have difficulties even with support 7(23.3%) I Cannot handle at all 4(13.3%) No Response 0(0.0%)	Easily without support 0(0.0) I can handle with support 10(17.2%) I have difficulties even with support 27(46.6%) I cannot handle at all 21(36.2%) No Response 0(0.0%)
Community Service learning	Easily without support 3(10.0%) I can handle with support 21(70.0%) I have difficulties even with support 3(10.0%) I cannot handle at all 3(10.0%) No Response 0(0.0%)	Easily without support 1(1.7%) I can handle with support 6(10.3%) I have difficulties even with support 24(41.3%) I cannot handle at all 27(46.7%) No Response 0(0.0%)
Non-formal service activity to support learning through application	Easily without support 5(16.7%) I can handle with support 20(66.7%) I have difficulties even with support 2(6.7%) I cannot handle at all 3(10.0%) No Response 0(0.0%)	Easily without support 5(8.6%) I can handle with support 13(22.4%) I have difficulties even with support 16(27.6%) I cannot handle at all 24(41.4%) No Response 0(0.0%)
Assessment rubric	Easily without support 5(16.7%) I can handle with support 19(63.3%) I have difficulties even with support 4(13.3%) I cannot handle at all 2(6.7%) No Response 0(0.0%)	Easily without support 3(5.2%) I can handle with support 8(13.8%) I have difficulties even with support 30(51.7%) I cannot handle at all 17(29.3%) No Response 0(0.0%)
Formative assessment	Easily without support 7(23.3%) I can handle with support 15(50.0%)	Easily without support 3(5.2%) I can handle with support 10(17.2%)

Summative Assessment

I have difficulties even with support 3(10.0%)	I have difficulties even with support 27(46.6%)
I cannot handle at all 5(16.7%)	I cannot handle at all 18(31.0%)
No Response 0(0.0%)	No Response 0(0.0%)
Easily without support 5(16.7%)	Easily without support 8(13.8%)
I can handle with support 23(76.7%)	I can handle with support 12(20.6%)
I have difficulties even with support 1(3.3%)	I have difficulties even with support 22(37.9%)
I cannot handle at all 1(3.3%)	I cannot handle at all 16(27.7%)
No Response 0(0.0%)	No Response 0(0.0%)

Table 4.6 show that out of the 30 teachers who had received training on CBC, majority of them indicated to a larger extent that they could handle various tasks on the areas which they had been trained on with support. On the other hand, majority of the 58 teachers who had not attended any training on CBC indicated that they had difficulties in handling the tasks even with support. Results on the various areas are as follows:

i) Schemes of Work

In regard to preparation of Schemes of work a large number 16(53.4%) of the trained respondents indicated that they could easily handle schemes of work preparation without support, while majority 30 (51.7%) of the respondents who had not attended any training on CBC indicated that they had difficulties handling the tasks even with support. This implies that teachers who received training on CBC acquired knowledge and skills on how to prepare schemes of work thus experiencing fewer challenges compared to those who had not been trained. This finding contradicts with the findings reported by KNUT (2019) which indicated that the few teachers who had been trained on CBC did not benefit at all from the trainings which were being done by incompetent trainers.

Given that the teachers who were trained on CBC were better placed to prepare the schemes, it means that training of teachers is imperative for successful implementation of CBC in public pre-primary schools. The same is echoed by Jeng'ere (2017) who highlighted that as a requisite for successful teaching-learning in schools, teachers require pedagogical knowledge and skills on how to integrate CBC aspects in instruction. Therefore, consistent training of pre-primary teachers is needed.

ii) Lesson Plans

In regard to the ability of the teachers to prepare lesson plans, majority 18(60.0%) of those who were trained indicated that they can prepare lesson plans that are compliant with the CBC easily without support. However, majority 31(53.4%) of the teachers who had not received any training on CBC indicated that they had difficulties preparing lesson plans that were compliant with the curriculum even with support. This is an indication that majority of the teachers who received training on CBC were better in lesson preparation compared to their colleagues who had not received training on CBC. This means that the training was beneficial to the teachers. However, the high number of pre-primary school teachers who had not received any training will negatively affect the implementation process. This is elucidated by Jeng'ere (2017), who explained that for effective implementation of CBC, preparation of reflective lesson plans is paramount.

These findings are supported by a study carried out by Waweru (2018) on the extent to which lower primary school teachers were trained to implement the CBC in Nyandarua North Sub- County, Kenya and established that preparing of the CBC lesson plans was impossible to 95% of the lower primary teachers. Similarly, Komba & Mwandanji (2015) investigated issues surrounding the implementation of CBC in Tanzanian secondary schools. Findings from the study indicated that majority (86%) of the teachers lacked adequate knowledge on the curriculum. Further, majority (78%) of the reviewed lesson plans did not reflect the qualities of a competence-based lesson plan. Therefore, all pre-primary school teachers in public

pre-primary schools need to be trained on how to develop and follow lessons plans with all the components highlighted in the curriculum designs.

iii) Learning areas

In line with teachers' ability to handle tasks in various learning areas, majority 21(70.0%) of the trained respondents could handle the various learning areas easily without support. On the other hand, majority 18(31.0%) of the respondents who were not trained indicated that they could easily handle learning areas with support. This shows that majority of the teachers who had not received training on CBC required support in order to handle the various learning areas. This finding agrees with findings by Waweru (2018) who conducted a study which investigated extent to which lower primary school teachers were trained to implement the CBC in Nyandarua North Sub- County, Kenya. The study reported that majority 98.8% of the lower primary school teachers were not trained to implement the curriculum especially on the new learning areas. Therefore, all pre-primary school teachers in public pre-primary schools need to be trained on how to teach the various learning areas in pre-primary grades.

iv) Learning Outcomes

The results on learning outcomes indicated that majority 21(70.0%) of the respondents who were trained indicated that they were able to easily handle tasks on learning outcomes without support. While majority 23 (39.6%) of the respondents who had not received any training on CBC indicated that they could write learning outcomes with support. The findings show that majority of the teachers who attended the CBC trainings acquired knowledge and skills on how to write learning

outcomes as required by the curriculum. Whereas teachers who had not received any training experienced challenges writing learning outcomes.

This finding concurs with Mandukwini (2016) who examined challenges towards curriculum implementation in high schools in Mount Fletcher district, Eastern Cape and established that although teachers try to perform their roles and responsibilities to ensure effective implementation of curriculum in their contexts, they still required training on how to develop learning outcomes and how to measure achievement of the set objectives at the end of lessons. The findings also agree with Kangori (2014) who studied the influence of preschool teacher in-service training and professional development on implementation of science curriculum in Nairobi City County. The study established that teacher in-service training and professional development influenced their ability to deliver in classrooms. Therefore, the County Government of Nairobi City should ensure continuous training and professional development of pre-primary school teachers through in-service training programs, this will help the teachers to acquire knowledge and skills in handling various aspects of the Curriculum.

v) Core competencies

In regard to infusing of core competencies in instruction, majority 19(63.3 %) of the trained respondents indicated that they were able to infuse the core competencies in teaching-learning with support. This is an indication that as much as the teachers received training on infusing the core competencies, they still experienced challenges. This means that even those who had attended the training required more training on this aspect. On the other hand, majority 26 (44.8%) of the teachers who had not received training on CBC indicated that they experienced challenges in

infusing the core competencies even with support. These results also show that teachers who had not been trained were experiencing more difficulties in integrating the core competencies in teaching-learning. Thus, they need to be trained on how to infuse the core competencies in instruction. The findings agree with Waweru (2018) who conducted a study which examined the extent to which lower primary school teachers were trained to implement the CBC in Nyandarua North Sub- County. The study reported that majority (72.8%) of the lower primary school teachers needed support in infusing most of the core competencies in instruction as they felt that they were still incompetent.

Further, the findings also concur with findings reported by Zhuwale and Shumba (2017) who investigated on teacher factors which hindered smooth implementation of curriculum in rural schools of Zimbabwe. The study revealed that teachers' lack of pedagogical knowledge on how to infuse the aspects of the curriculum in instruction was the major challenge which hindered the implementation of the curriculum. The study recommended for comprehensive training of teachers on the curriculum. In addition, the findings also agree with Kanyonga, Maatana and Wendit (2019) who examined how technical trainers implement the core aspects of CBC in Arusha, Tanzania. The study established that majority of the trainers had received in-service training but had little understanding about the curriculum and had little knowledge and skills in infusing the core aspects of the curriculum.

It is evident that both the trained teachers and those who had not received training require regular training for them to develop the capacity of infusing the core competencies in instruction. Therefore, there is need for continuous training of pre-

primary school teachers in public schools on how to implement the core aspects of the CBC.

vi) Parental Engagement

In regard to parental engagement, majority 18(60.0%) of the respondents who had received training on CBC indicated that they could engage the parents easily without support whereas majority 18(31.0%) of the respondents who had not received training on CBC indicated that they had difficulties engaging the parents even with support. These findings are supported by Makunja (2016) who studied on challenges facing teachers in implementing CBC in schools in Tanzania. The study established that teachers lacked enough knowledge on how to integrate the aspects of the new curriculum in instruction. This was identified as the major challenge which impeded effective implementation of the CBC in schools. Findings from this study show that the teachers who attended CBC training were able to engage parents compared to those who had not received any training. This implies that the training is equipping teachers with relevant knowledge and skills. Therefore, the teachers who have not been trained should also undergo continuous training to help them get the skills they need to implement the curriculum.

vii) Pertinent and contemporary Issues

Quite a large number 11(36.7%) of the trained respondents agreed that they can handle with support pertinent and contemporary issues on CBC. On the other hand, majority 27(46.6%) of the respondents who had not been trained indicated that they had difficulties infusing the pertinent and contemporary issues in learning even with support. This shows that trained teachers could infuse pertinent and contemporary

issues on CBC better than those teachers who were not trained on CBC. However, the results also show that even those who had received training still had difficulties in infusing the pertinent and contemporary issues in learning. These findings show that that handling pertinent and contemporary issues is still a challenge to both trained and non-trained teachers. This means that the teachers had not received adequate training on this aspect of the curriculum.

The findings agree with Kemboi and Nabwire (2017) who reported that majority of the teachers did not have competencies to implement the core aspects of the curriculum. Also, the findings concur with Makunja (2016) study on challenges facing teachers in implementing CBC in schools in Tanzania. The study established that teachers lacked enough knowledge on how to integrate the aspects of the new curriculum in instruction. Therefore, it can be concluded that a significant number of the pre-primary school teachers in public schools were not competent in infusing pertinent and contemporary issues in learning. This implies that if teachers do not receive adequate training, they will not have the ability to implement the curriculum.

viii) Community Service Learning

Majority 21(70.0%) of the respondents who had been trained on CBC indicated that they could integrate community service learning with support, whereas majority 27(46.7%) of non-trained respondents indicated that they could not handle community service learning at all. This is an indicator that infusing community service learning was still a challenge to both the trained and non-trained teachers. However, majority of the teachers who had been trained could infuse community service learning in instruction better than those who had not received any training. This means that training of teachers is import. This concurs with Zeiger (2014) who

argued that teachers are the core implementers of the curriculum hence; they need to have significant knowledge, skills and abilities to combine all the components in order to create a learning environment. Therefore, there is need for more in-service trainings to be organized for pre-primary school teachers in public primary schools to enable them acquire necessary skills on how to implement the curriculum.

ix) **Non-formal service activity to support learning through application**

In regard to handling of non-formal service activity to support learning through application, majority 20(66.7%) of the trained respondents indicated that they could handle non-formal learning activities with support. On the other hand, majority 24(41.4%) of the respondents who had not attended any CBC training could not at all. These findings show that the teachers who attended the training had some knowledge on non-formal learning compared to those who were not trained. However, both categories still had challenges, therefore, there is need for more training to be conducted to equip the teachers with required skills and knowledge so that they can implement the various aspects of the curriculum independently. The results agree with the findings of a study of Kemboi and Nabwire (2017) conducted in North Rift region of Kenya which investigated on teachers' competence in pedagogical knowledge in teaching and established that majority of the teachers did not use learner centered approaches because they lacked training. This implies that if teachers do not receive adequate training in pedagogy, they will not have the ability to implement the curriculum.

x) Assessment Rubrics

Assessment of learners using assessment rubrics was indicated by majority 19(63.3%) of trained respondents that they could handle with support. On the other hand, those who were not trained indicated majority 30(51.7%) who had difficulties in using assessment rubrics even with support. These findings show that use of assessment rubrics to assess learners is a great challenge to teachers who have not been trained on CBC. The findings agree with the findings by Waweru (2018) who investigated the extent to which lower primary school teachers were trained to implement the CBC in Nyandarua North Sub- County, Kenya. The study reported that 98.8% of the teachers were not trained to implement the curriculum. It also established that 50% of the teachers' experienced challenges in designing and using the assessment rubrics. This is a clear indication that teachers lack adequate knowledge and skills on how to use assessment rubrics to assess learners' progress. Therefore, appropriate training framework should be enacted by the County Government to equip the pre-primary school teachers in public primary schools with the required skills.

xi) Formative assessment

In regard to conducting formative assessment, majority 15(50.0%) of the trained respondents indicated that they could do formative assessment with support. Whereas those respondents who were not trained, majority 27(46.7%) of them indicated that they had difficulties conducting formative assessments even with support. This shows that as much as teachers who were trained were better in conducting formative assessment compared to those who are not trained, they also had some challenges. This means that the teachers did not receive adequate training

on assessment. This finding is consistent with the findings by Kanyonga, Maatana and Wendit (2019) who established that majority of the teachers in Tanzania had received in-service training but had little understanding about the curriculum. It also reported that they had little knowledge and skills in infusing the core aspects of the curriculum. This is also in line with a study that was conducted by Gobingca, Athiemoolam & Blignut (2017) which reported lack of training as a factor affecting National curriculum implementation in Mthantha district, South Africa. The results showed that teachers had negative perceptions on the curriculum due to lack of adequate training on the curriculum hence, it recommended for more training of teachers. Therefore, there is need for continuous training of the teachers on how to conduct formative assessment.

xii) Summative Assessment

Majority 23(76.7%) of the trained respondents indicated that they could conduct summative assessment with support. In comparison to this, majority 22 (37.9%) of the respondents who were not trained had difficulties conducting summative assessment even with support. These results show that majority of the teachers who had been trained could conduct summative assessments better than those who had not been trained. These findings concur with findings by Ondimu (2018) who sought to establish teachers' readiness to implement the CBC in private preschools in Dagoretti North Sub- County, Nairobi County and found that majority of the preschool teachers in private schools were not able to conduct summative assessment and track learners' progress. Therefore, it can be concluded that majority of pre-primary school teachers in public pre-primary schools lack adequate

knowledge and skills on assessing learners. This calls for more in-service training on CBC.

4.4.7 Ability of Teachers to Implement Various Components of CBC Lesson Plans

Further, the study sought to establish whether the pre-primary school teachers were able to implement the various components of CBC lesson plans as required by the curriculum. Both the trained teachers and those who had not received any training on CBC participated in this because the researcher wanted to see if there were any differences in their abilities to handle the components. This was achieved in three ways; first, the pre-primary school teachers were given the questionnaire with statements describing the various components of CBC compliant lesson plans as illustrated in the curriculum designs. The statements were rated on a five-point Likert scale ranging from Very Well=5, Good=4, Developing =3, Needs support=2 and No Response=1. The teachers were asked to indicate the extent to which they have demonstrated ability to develop and follow the various aspects of lesson plans as required by the Curriculum.

Further, the researcher and the research assistants also used the observation schedule to observe how the teachers conducted their lessons and lastly, the document analysis guide was used, where by the researcher went through the teachers' lesson plans to check whether they were prepared as illustrated by the curriculum designs.

The findings are presented in table 4.7:

Table 4.7

Ability to Prepare and Follow Lesson Plans that are Compliant to CBC

Components	Very Well f (%)		Good f (%)		Developing f (%)		Needs Support f (%)		No Response f (%)	
	TT	NTT	TT	NTT	TT	NTT	TT	NTT	TT	NTT
Ability to design CBC compliant lesson plans in various learning areas	6(20.0)	5(8.6)	4(13.3)	16(27.6)	18(60.0)	6(10.3)	2(6.7)	31(53.5)	0(0.0)	0(0.0)
Ability to prepare lesson plans with specific learning outcomes to facilitate learning in a lesson	21(70.0)	0(0.0)	7(23.3)	42(72.4)	2(6.7)	1(1.7)	0(.00)	13(22.4)	0(.00)	2(3.4)
Ability to prepare lesson plans with learning experiences to enable achievement of learning outcomes	4(13.3)	2(3.4)	20(66.7)	5(8.6)	4(13.3)	30(51.7)	2(6.7)	20 (34.5)	0(0.0)	1(1.7)
Ability to prepare lesson plans indicating the Core competences to be developed in learners	1(3.3)	13(22.4)	26(86.7)	1(3.3)	2(6.7)	10(17.2)	25(43.1)	9(15.5)	0(0.0)	1(1.7)
Ability to develop key inquiry questions based on the learning outcomes to facilitate learning	6(20.0)	0(0.0)	15(50.0)	1(1.7)	5(6.7)	43(74.1)	4(13.3)	13(22.4)	0(0.0)	1(1.7)
Ability to develop appropriate Learning resources to facilitate learning	5(8.6)	2(3.4)	4(13.3)	4(13.3)	19(63.3)	31(53.4)	2(6.7)	20 (34.5)	0(0.0)	1(1.7)
Ability to engage learners in activities which can help them	9(30.0)	0(0.0)	14(46.7)	10(17.2)	3(10.0)	27(46.6)	4(13.3)	21(36.2)	0(0.0)	0(0.0)

explore learning materials										
Ability to facilitate group learning and problem solving in class	18(60.0)	5(8.6)	31(53.5)	16(27.6)	4(13.3)	6(20.0)	2(6.7)	6(10.3)	0(0.0)	0(0.0)
Ability to prompt learners' critical thinking through questions	15(50.0)	0(0.0)	5(6.7)	42(72.4)	5(16.7)	13(22.4)	4(13.3)	1(1.7)	1(1.7)	2(3.4)
Ability to infuse pertinent and contemporary (PCIs) issues in lessons	8(26.7)	0(0.0)	7(23.3)	10(17.2)	11(36.7)	27(46.6)	4(13.3)	21(36.2)	0(0.0)	0(0.0)
Ability to develop non-formal activities to support learning	5(16.7)	5(8.6)	2(6.7)	13(22.4)	20(66.7)	16(27.6)	3(10.0)	27(46.6)	0(0.0)	0(0.0)
Ability integrates community service-learning activities in lessons	3(10.0)	1(1.7)	3(10.0)	6(10.3)	21(70.0)	24(41.3)	3(10.0)	27(46.7)	0(0.0)	0(0.0)
Ability to use key inquiry questions that prompt learners' interest in knowing what next	22(73.3)	0(0.0)	6(20.0)	42(72.4)	2(6.7)	13(22.4)	0(.00)	1(1.7)	0(.00)	2(3.4)
Ability to engage learners in creative activities which enhance their imagination and creative skills	14(46.7)	2(3.4)	10(33.3)	30(51.7)	4(13.3)	5(8.6)	2(6.7)	20 (34.5)	0(0.0)	1(1.7)
Ability to inculcate life values in learners	3(10.0)	13(22.4)	26(86.7)	25(43.1)	2(6.7)	1(3.3)	10(17.2)	9(15.5)	0(0.0)	1(1.7)
Ability to use digital devices to facilitate learning	6(20.0)	0(0.0)	5(6.7)	1(1.7)	4(13.3)	13(22.4)	15(50.0)	43(74.1)	0(0.0)	1(1.7)
Ability to engage parents in learning activities	7(23.)	11(18.9)	18(60.0)	13(22.4)	2(6.7)	18(31.0)	3(10.0)	16(27.7)	0(0.0)	0(0.0)

Key: TT-Trained Teachers; NTT Non-Trained Teachers

The results in table 4.7 indicate that majority 18(60.0%) of the teachers who had received training on how to implement CBC were developing their abilities in preparing CBC compliant lesson plans in various learning areas. On the other hand, majority 31(53.5%) of those who had not attended any training indicated that they needed support on how to prepare CBC compliant lesson plans. This was an indication that teachers who had been trained could design CBC compliant lesson plans better than those who had not received any training. However, just like those who had not been trained, they also needed more training on this. This was also noted through observations where by the researcher observed that majority 78(88.6%) of the teachers did not have lesson plans for the observed lessons while 10(11.4%) had prepared lesson plans. Further, through document analysis, it was established that out of the 10 teachers who had lesson plans, four (4) of them had lesson plans which did not reflect the qualities of a competence-based lesson plan. This shows that there is need to train the pre-primary school teachers on the importance of preparing lesson plans and equip them with skills on designing lesson plans which are compliant with the CBC in all learning areas.

The study delved further to establish the ability of the teachers to handle the various components of CBC lesson plans. This was done to help the researcher establish the specific components which teachers experienced difficulties in implementing. First, the study sought to establish the teachers' ability to write learning outcomes for specific lessons. It was established that majority 21(70.0%) of the teachers who had received training indicated that they were very good writing outcomes while majority 42(72.4%) of those who had not been trained indicated that they were good in writing outcomes. Further, the study sought to find out the teachers' ability to develop learning experiences to enable achievement of learning outcomes in a lesson. Majority 20(66.7%) of the teachers who had received training

indicated that they were good in developing learning experiences to enable achievement of learning outcomes in a lesson while majority 30(51.7%) of the non-trained indicated that they were developing. The results show that majority of the teachers had good ability in write learning outcomes but experienced challenges in developing appropriate learning activities to help achieve the outcomes.

Further, the study sought to establish the teachers' ability to develop key inquiry questions based on the learning outcomes to facilitate learning. Majority 15(50.0%) of those who had received training on CBC indicated that they were good. While a large 43(74.1%) number of those who were not trained indicated that they were developing. In addition, the respondents were asked to indicate their ability to prepare lesson plans indicating the core competences to be infused in learning. Majority 26(86.7%) of those had received training on CBC indicated that they had good abilities. While a large 25(43.1) number of those who were not trained indicated that they were needed support on how to do it. This means that the teachers had abilities to develop key inquiry questions based on the learning outcomes to facilitate learning. However, majority of them especially those who had not been trained lacked proper understanding on core competencies. This is an indicator that pre-primary school teachers in public pre-primary schools need more training on the core competencies.

Moreover, the study delved to establish teachers' ability to develop appropriate learning resources to facilitate learning. Majority 19(63.3%) of the teachers who had received training and majority 31(53.4%) of those who had not been trained indicated that they were developing their abilities to develop appropriate learning resources to facilitate learning. Also, the study sought to establish the ability of the teachers to engage learners in activities which could help them explore learning materials. Majority 14(46.7%) of those who had received training on CBC had good abilities, while a large 27(46.6%) number of those who

were not trained were developing their abilities. The results show that all the teachers required more training on how to improvise learning resources which they can use to facilitate learning.

In addition, the study sought to determine the ability of the teachers to facilitate group learning and problem solving in class. It was found that a large number 18(60.0%) of those who had been trained on CBC were very good, while majority 31(53.5%) of the non-trained were good at facilitating group learning and problem solving in class. Further, the study sought to determine the ability of teachers to prompt learners' critical thinking through questions. Majority 15(50.0%) of those who had received training on CBC were very good, while a large 42(72.4%) number of those who were not been trained indicated that they were good at prompting learners' critical thinking through questions. This shows that all the teachers had the ability to promote group learning and problem solving and enhancing critical thinking among learners.

Additionally, the study sought to determine teachers' ability to infuse pertinent and contemporary (PCIs) issues in lessons. Majority 11(36.7%) of those who had received training and majority 27(46.6%) of those who had not been trained indicated that they were developing abilities to infuse pertinent and contemporary issues in learning. Further, the study aimed to determine the teachers' ability to develop non-formal activities to support learning, where by the majority 20 (66.7) of the teachers who had received training indicated that they were developing their abilities while majority 27(46.6%) of those who had not been trained indicated that they needed support in developing non-formal activities to support learning. These results show that the teachers had challenges in infusing pertinent and contemporary issues in learning and developing non-formal activities to support learning. Therefore, they need more training on these two aspects.

Also, the study sought to determine the ability of the respondents to integrate community service-learning activities in learning. It was established that majority 21(70.0%) of the respondents who had received training on CBC indicated that their abilities were developing, while a large 27(46.7%) number of those who were not trained indicated that they needed support on how to integrate community service-learning activities in lessons. In addition, the study sought to determine the respondents' ability to use key inquiry questions that prompt learners' interest in knowing what next. Majority 22(73.3%) of those who had received training on CBC had good abilities, also, majority 42(72.4%) of the untrained respondents had good abilities in using key inquiry questions that prompt learners' interest in knowing what next. The results show that the teachers had good abilities in using key inquiry questions that prompt learners' interest in knowing what next, while they experienced challenges to integrate community service-learning activities in learning.

Furthermore, the study sought to determine the respondents' ability to engage learners in creative activities which enhance their imagination and creative skills. It was established that majority 14(46.7%) of those who had received training on CBC and majority 30(51.7%) of those who had not been trained had good abilities in engaging learners in creative activities. Also, the study sought to determine the respondents' ability to inculcate life values in learners. It was established that majority 26(86.7%) of the trained teachers and majority of those who had not been trained indicated that they had good ability in inculcating life values in learners. This means that the teachers did not have difficulties in engaging learners in creative activities and inculcating values in learners.

Lastly, the study sought to establish the respondents' ability to use digital devices to facilitate learning. It was established that majority 15(50.0) of the respondents who had received training and majority 43(74.1) of those who had not been trained needed support

on how to use digital devices in instruction. Also, the study sought to establish the ability of the respondents to engage parents in learning. The results showed that majority 18 (60.0%) of those who had been trained indicated that they were good in engaging parents in learning. While majority 18 (31.0%) of the respondents who had not received training were developing their abilities to engage parents in learning activities. The results indicate that all the teachers had challenges using digital devices in learning while those teachers who had not received training experienced challenges engaging parents in learning. Therefore, there is need for comprehensive and consistent training of pre-primary school teachers on how to engage parents and how to use digital devices in teaching-learning.

Based on the analysis of the lesson plans, participants' responses and through observations, the researcher concluded that the pre-primary school teachers especially those who had not received any training lacked knowledge and skills on how to handle most of the components of CBC lesson plans as required by the Curriculum. The components which the teachers experienced more difficulties in handling included: indicating the core competences to be developed in learners, integrating community service-learning activities in lessons, developing non-formal activities to support learning, infusing pertinent and contemporary issues in lessons, development of appropriate learning resources to facilitate learning and use of digital devices to facilitate learning.

These findings concur with findings by Komba and Mwandanji (2015) who investigated issues surrounding the implementation of CBC in Tanzanian schools. The results indicated that the majority (86%) of the teachers lacked adequate knowledge on the curriculum. Further, the study reported that majority (78%) of the reviewed lesson plans did not reflect the qualities of a competence-based lesson plan. Further, the findings agree with by Waweru (2018) who studied on the extent to which lower primary school teachers were

trained to implement the CBC in Nyandarua North Sub- County, Kenya. The study revealed that preparing of the CBC lesson plans was impossible to 95% of the lower primary school teachers. These findings are supported by the findings of a study by Kanellopoulou and Darra (2018) that investigated the planning of teaching in the context of lesson study and established that quality of instruction was influence by teachers' planning and preparation of the lesson. These findings are also in consistent with the findings of a comparative study done by Cicek and Tok (2014) that evaluated the effective use of lesson plans to enhance education in US and Turkish kindergarten thru 12th grade public school system and observed that the teachers experience challenges integrating the outlined competencies in learning. This implies that teachers need continuous and consistent training on how to prepare lesson plans and integrate the lesson plan components in learning.

4.4.8 Ability of Teachers to Infuse the Core Competencies in Learning

In addition, the study sought to determine whether the pre-primary school teachers in public pre-primary schools were able to integrate all the core competencies in teaching-learning. This was done with an aim of identifying the core competencies which teachers were experiencing difficulties to infuse in learning. Information on this was collected using the questionnaire which had a table that listed the core competencies which teachers are expected to infuse in learning as stated in the Curriculum, on a five-point Likert scale ranging from Very Well=5, Good=4, Developing =3, Needs support=2 and No Response=1. The teachers were asked to indicate the extent to which they had demonstrated ability to integrate the core competencies in instruction

Further, the researcher and the research assistants conducted observations to see if the teachers infused the core competencies in learning. Both the trained teachers (30) and those who had not received any training on CBC (58) participated in this because the researcher

wanted to see if there were any differences in terms of their abilities to infuse the core competencies in instruction. The obtained results are presented in table 4.8.

Table 4.8

Ability to Infuse the Core competencies in Learning

Core Competencies	Very Well f (%)		Good f (%)		Developing f (%)		Needs Support f (%)		No Response f (%)	
	TT	NTT	TT	NTT	TT	NTT	TT	NTT	TT	NTT
Ability to infuse communication and collaboration	3(10.0)	0(0.0)	17(56.7)	31(53.4)	7(23.3)	1(1.7)	3(10.0)	25(43.1)	0(0.0)	1(1.7)
Ability to infuse critical thinking and problem solving	5(6.7)	0(0.0)	15(50.0)	1(1.7)	5(16.7)	42(72.4)	4(13.3)	13(22.4)	1(1.7)	2(3.4)
Ability to infuse imagination and creativity	10(33.3)	2(3.4)	14(46.7)	5(8.6)	4(13.3)	30(51.7)	2(6.7)	20 (34.5)	0(0.0)	1(1.7)
Ability to infuse Citizenship	4(13.3)	6(20.0)	15(50.0)	7(12.1)	5(16.7)	5(8.6)	4(13.3)	18(31.0)	1(1.7)	3(5.2)
Ability to infuse Learning to learn	1(3.3)	13(22.4)	2(6.7)	1(3.3)	26(86.7)	10(17.2)	25(43.1)	9(15.5)	0(0.0)	1(1.7)
Ability to infuse Self-efficacy	3(10.0)	0(0.0)	17(56.7)	31(53.4)	7(23.3)	1(1.7)	3(10.0)	25(43.1)	0(0.0)	1(1.7)
Ability to infuse Digital Literacy	6(20.0)	0(0.0)	5(6.7)	1(1.7)	4(13.3)	13(22.4)	15(50.0)	43(74.1)	0(0.0)	1(1.7)

Key: TT-Trained Teachers; NTT-Non-Trained Teachers

Results in table 4.8 show that a large number 17(56.7%) of the respondents who had received training on CBC and a large number 31(53.4%) of those who had not received any training indicated that they had a good ability to infuse communication and collaboration in learning. This was also noted during observations, where by majority of the respondents' engaged learners in activities which they performed in groups and exchanged ideas. This means that the majority of the pre-primary school teachers had the ability to integrate communication and collaboration in learning.

Further, it was established that most 15(50.0%) of the respondents who had attended CBC training had good ability to infuse critical thinking and problem solving. While a large number 42 (72.4%) of those who had not received any training developing the ability to infuse critical thinking and problem solving. The same was noted through observations whereby majority of the respondents who had received training on how to implement the Curriculum were very good at prompting learners to work through word questions to apply learnt knowledge compared to those who had not been trained. This is an indication that those teachers who had attended the trainings were able to infuse critical thinking and problem solving in learning better compared to those who had not been trained.

In addition, the results show that majority 14(46.7%) of the respondents who had attended CBC training had good ability in infusing imagination and creativity in learning. On the other hand, majority 30(51.7%) of the respondents who had not attended any training were developing the ability to infuse imagination and creativity in learning. This was also confirmed through observations whereby some

of the respondents' engaged learners in creative activities and a few had displays of learners' work in the classrooms. This means that the teachers had some abilities on how to infuse imagination and creativity but they needed more training on how to infuse the competence efficiently.

Further, a large number 15(50.0%) of the respondents who had been trained had good abilities in infusing citizenship, while majority 18 (31.0%) of the non-trained were developing abilities. Further, majority 26(86.7%) of the respondents who had been trained were developing abilities in infusing learning to learn while majority 25(43.1%) of the non-trained needed support to infuse learning to learn. This means that majority of the teachers experienced more challenges in infusing learning to learn, which implies that they needed to be trained on it.

Finally, majority 15(50.0%) of the respondents who had been trained had good abilities in infusing self-efficacy, while most 43(74.1%) of the non-trained respondents were developing abilities. Through observations, it was noted that almost half of the participants allowed learners to perform activities and tasks independently to help develop their self-efficacy. On the other, hand, majority 15(50.0%) of the respondents who had received training and most 43(74.1%) of those who had not received any training needed support on how to use to infuse digital literacy in learning. This is an indication that all teachers had difficulties in integrating digital media in learning, which means that the learners cannot acquire digital literacy. This was also confirmed through observations, whereby the researcher noted that none of the respondents used digital media in teaching-learning. Therefore, all the teachers needed to be trained on the importance of

integrating technology in instruction and how to use digital devices in teaching-learning.

Based on the results, it is evident that the teachers who had received training benefited from the training, because they indicated good abilities in integrating most of the core competencies in learning. Whereas, those who had not received any training on CBC, needed support in integrating most of the core competencies in teaching-learning. The core competencies which were more challenging to infuse in learning included learning to learn and digital literacy. This means the pre-primary school teachers in public pre-primary schools need to be trained more in integrating learning to learn and digital literacy in learning. The findings agree with Waweru (2018) who conducted a study which examined the extent to which lower primary school teachers were trained to implement the CBC in Nyandarua North Sub-County. The study reported that majority (72.8%) of the lower primary school teachers needed support in infusing most of the core competencies in instruction as they felt that they were still incompetent.

Further, the findings also concur with findings reported by Zhuwale and Shumba (2017) who investigated on teacher factors which hindered smooth implementation of curriculum in rural schools of Zimbabwe. The study revealed that teachers' lack of pedagogical knowledge on how to infuse the aspects of the curriculum in instruction was the major challenge which hindered the implementation of the curriculum. The study recommended for comprehensive training of teachers on the curriculum. In addition, the findings also agree with Kanyonga, Maatana and Wendit (2019) who examined how technical trainers implement the core aspects of CBC in

Arusha, Tanzania. The study established that majority of the trainers had received in-service training but had little understanding about the curriculum and had little knowledge and skills in infusing the core aspects of the curriculum.

This implies that majority of the pre-primary school teachers in public pre-primary schools in the County need to be trained to help them understand the core competencies and how to infuse them in learning.

4.4.9 Teachers' Abilities to Assess Learners' Progress

The study also aimed to establish whether pre-primary school teachers in public pre-primary schools were able to assess learners as required by the Curriculum. This was done in order to identify specific areas in regard to assessment which the teachers were experiencing challenges. The questionnaire presented a table with statements describing how teachers are expected to assess learners as outlined in the curriculum. The statements were on a five-point Likert scale ranging from Very Well=5, Good=4, Developing=3, Needs support=2 and No Response=1. The teachers were asked to indicate the extent to which they had demonstrated ability to do the assessments.

In addition, the researcher and the research assistants used the document analysis guide to scrutinize the assessment rubrics and learners' progress books. Both the trained teachers (30) and those who had not received any training on CBC (58) participated in this because the researcher wanted to see if there were any differences in terms of their abilities to assess learners using assessment rubrics. The results which were obtained are presented in table 4.9

Table 4.9

Ability to Assess Learners' Progress

Task	Very Well f (%)		Good f (%)		Developing f (%)		Needs Support f (%)		No Response f (%)	
	TT	NTT	TT	NTT	TT	NTT	TT	NTT	TT	NTT
Ability to design assessment rubrics	5(16.7)	0(0.0)	7(23.3)	0(0.0)	15(50.0)	23(39.7)	3(10.0)	35(60.3)	0(0.0)	0(0.0)
Ability to use assessment rubrics for continuous assessment of learners	6(20.0)	0(0.0)	5(16.7)	1(1.7)	15(50.0)	13(22.4)	4(13.3)	43(74.1)	0(0.0)	1(1.7)
Ability to provide assessment tasks which measure the attainment of specified competencies in each learning area	10(33.3)	2(3.4)	14(46.7)	5(8.6)	4(13.3)	20 (34.5)	2(6.7)	30(51.7)	0(0.0)	1(1.7)
Ability to use assessment methods that measures students' understanding, reasoning and critical thinking rather than ability to memorize facts	4(13.3)	5(8.6)	10(33.3)	7(12.1)	11(36.7)	5(8.6)	5(16.7)	18(31.0)	0(0.0)	3(5.2)
Ability to report and notify learners after formative assessment	2(6.7)	13(22.4)	26(86.7)	10(17.2)	1(3.3)	25(43.1)	1(3.3)	9(15.5)	0(0.0)	1(1.7)
Ability to conduct summative assessment	6(20.0)	0(0.0)	5(6.7)	1(1.7)	15(50.0)	13(22.4)	4(13.3)	43(74.1)	0(0.0)	1(1.7)

Key: TT-Trained Teachers; NTT-Non-Trained Teachers.

The results in the Table 4.9 show that a large number 15(50.0%) of the respondents who had received training on CBC had good abilities in designing and using assessment rubrics. On the other hand, majority 35(60.37%) and 43(74.17%) of the respondents who had not attended any training needed support in designing and using assessment rubrics. Similarly, majority 14 (46.7%) of the respondents who were trained had good ability to provide assessment tasks which measure the attainment of specified competencies in each learning area. While, majority 30(51.77%) of the non-trained respondents needed support on how to develop assessment tasks which measure the attainment of specified competencies. This means that the teachers who were trained had better knowledge and skills on use of assessment rubrics compared to those who had not received any training

Further, majority 11(36.77%) of the trained teachers were developing ability to use assessment methods that measured students' understanding, reasoning and critical thinking rather than ability to memorize facts. On the other hand, those who had not received training, most 18(31.07%) of them needed support. This shows that both the trained and those who had not been trained experienced difficulties in this aspect; therefore, they needed more training on it.

In addition, the study sought to establish the ability of the teachers to report and notify learners after formative assessment. Majority 26(86.7%) of the trained respondents had good abilities in this, while those who had not been trained majority 25(43.1%) were developing abilities. This means that the teachers who had not been trained lacked adequate knowledge on formative assessment. Finally, the respondents had difficulties in conducting summative assessment as indicated by majority 15(50.0%)

of the trained respondents who were developing and majority 43 (74.1%) of the non-trained who needed support in this aspect

Generally, the findings show that majority of the pre-primary school teachers lacked adequate knowledge and skills on how to use assessment rubrics to assess learner's progress. This was also confirmed through the document analysis exercise, whereby the researcher noted that majority of the participants did not have assessment rubrics and most of the schools did not have learners' progress records. Further, it was observed that most of the participants were still assessing learners the way they used to do in the 8.4.4 curriculum, an indication that the Curriculum is not being implemented effectively in public pre-primary schools. These findings show that use of assessment rubrics to assess learners is a great challenge for pre-primary school teachers in public schools, more especially those who have not been trained on CBC.

The findings are consistent with findings by Ondimu (2018) who sought to establish teachers' readiness to implement the CBC in private preschools in Nairobi County and found that majority of the preschool teachers in private schools were not able to conduct summative assessment and track learners' progress. Also, the findings agree with the findings by Waweru (2018) who investigated the extent to which lower primary teachers were trained to implement the CBC in Nyandarua North Sub-County, Kenya. The study reported that 98.8% of the teachers were not trained to implement the curriculum and 50% of the teachers' experienced challenges in designing and using the assessment rubrics. This is a clear indication that teachers lack adequate knowledge and skills on how to use assessment rubrics to assess learners' progress. Therefore, it can be concluded that majority of pre-primary school

teachers in public primary schools lack adequate knowledge and skills on assessing learners. This means that teachers in public pre-primary schools in the County require more consistent in-service training on CBC to prepare them in implementing the Curriculum. Therefore, there is need for an appropriate training framework to be enacted by the County Government of Nairobi City to equip the pre-primary school teachers with the required skills.

4.4.10 Hypothesis 1: Relationship between pre-primary school teachers’ extent of training on CBC and implementation of the Curriculum

The relationship between teachers’ training on CBC and their ability to implement the CBC in public pre-primary schools was computed using Chi-square to test the hypothesis that stated:

H₀₁ There is no relationship between pre-primary school teachers’ extent of training in CBC and their ability to implement the CBC in public pre-primary schools at .05 level of significance.

Table 4.9 presents findings on Chi-square computation for the above hypothesis

Table 4.10

Teachers’ Training on CBC and Implementation of the Curriculum

	Value	Df	Asymp. Sig. (2-sided)	Asymp. Sig. (2-sided)	Asymp. Sig. (1-sided)
Pearson Chi-Square	32.495 ^a	2	.000		
Likelihood Ratio	33.013	2	.000		
Fisher’s exact test				.001	.000
Linear-by-Linear Association	28.938	1	.000		
N of Valid Cases	88				

Table 4.10 indicates that the calculated Chi-square value was 32.495 at 2 degrees of freedom with a significance value $p=0.000 < 0.05$. The calculated p value was less

than the critical value 0.05. This shows that there was a significant relationship between teachers' training on CBC and their ability to implement the CBC in public pre-primary schools. Which means that the extent to which teachers are trained on how to implement the curriculum will influence its implementation. The null hypothesis was therefore rejected based on this finding. This shows that implementation of CBC in public pre-primary schools is influenced by teachers' training on CBC.

This finding is in agreement with the Concern-Based Adoption Model (CBAM) by Hall, Hord and Rutherford (2006) which postulated that the most important factor in implementation of a new program is the human element, which constitutes the implementers of the programme, who need to have necessary knowledge and skills on how to implement the new programme. Similarly, the findings are consistent with KNUT (2019) who concluded that implementation of CBC in schools was not successful because the curriculum was hurriedly done before majority of the teachers were trained on its contents and teaching methods. These findings also concur with the findings of a study conducted by Paulo (2014) on pre-service teacher preparedness in integrating CBC in secondary schools in Tanzania. The findings showed that the pre-service teachers were not trained on new assessment methods and how to prepare lesson plans as stipulated in the CBC. As such, they were still using traditional methods of teaching and assessment.

Further, the findings also agree with Makunja (2016) who established that the CBC was not fully implemented in Tanzanian schools, because the teachers lacked enough knowledge on how to integrate the aspects of the new curriculum in instruction.

Zeiger (2018) highlighted that in the context of the CBC, teachers need to conceptualize the paradigm shift from teaching to learning and conducting of formative assessment of learners' progress. Similarly, Syomwene (2017) highlights that teacher need to bear in mind of their extended responsibilities on the connections built between the curriculum and learners during instruction. Therefore, teachers need knowledge and skills that will enable them have the ability to use appropriate pedagogical approaches, developing lesson plans, assessment tools and choosing appropriate instructional materials that can accommodate pupils at different levels. Therefore, comprehensive teacher induction in CBC should be a priority for proper actualization of the curriculum in the public pre-primary schools.

4.5 Objective 2: Relationship between Teacher's Perception towards CBC and their ability to implement the Curriculum

To measure the teachers' perceptions towards the CBC, the respondents were provided with the following statements describing the way pre-primary school teachers interpret the CBC. The teachers who had been trained in CBC (30) and those who had not attended any training (58) were both asked to indicate the extent to which they agreed with the statements. The findings are presented in Table 4.11.

Table 4.11

Teacher's Perception about the CBC

Statement	Very true f (%)		True f (%)		I am not sure f (%)		Not true f (%)		No Response f (%)	
	TT	NTT	TT	NTT	TT	NTT	TT	NTT	TT	NTT
The CBC is very relevant to learners' needs	5(16.7)	13(22.4)	23(76.7)	23(39.7)	1(3.3)	10(17.2)	1(3.3)	7(12.1)	0(0.0)	5(8.6)
The CBC enables learners to learn at their own pace	23(76.7)	39(67.2)	5(16.7)	3(5.7)	0(0.0)	11(18.9)	2(6.7)	5(8.6)	0(0.0)	0(0.0)
The CBC enables learners to acquire values that are useful in the society	10(33.3)	4(6.9)	20(66.7)	29(50.0)	0(0.0)	9(15.5)	0(0.0)	15(25.9)	0(0.0)	1(1.7)
The CBC is interesting for learners	25(83.0)	32(55.2)	4(14.8)	0(0.0)	0(0.0)	5(8.6)	1(3.3)	18(31.0)	0(0.0)	3(5.2)
The CBC enables learners to develop their talents	26(86.7)	24(41.4)	2(6.7)	19(32.8)	1(3.3)	1(1.7)	1(3.3)	11(18.9)	0(0.0)	3(5.2)
The CBC engages parents in ways that support learning	18(60.0)	8(13.8)	5(6.7)	20(34.5)	1(3.3)	18(31.0)	6(20.0)	6(10.3)	0(0.0)	6(10.3)
The CBC contributes to the development of pupils' creativity	23(76.7)	0(0.0)	5(16.7)	39(67.2)	0(0.0)	11(18.9)	2(6.7)	3(5.7)	0(0.0)	5(8.6)
CBC enhances self -efficacy of pupils	8(25.0)	33(56.3)	21(73.9)	2(3.4)	0(0.0)	5(8.6)	0(1.1)	17(29.3)	1(0.0)	1(1.7)
Formative assessment helps teachers to address gaps in instruction.	25(83.0)	18(31.0)	4(14.8)	0(0.0)	0(0.0)	5(8.6)	1(3.3)	3(5.2)	0(0.0)	32(55.2)
The CBC is difficult to implement	1(3.3)	9(15.5)	5(16.7)	5(5.2)	0(0.0)	0(0.0)	24(80.0)	11(18.9)	0(0.0)	35(60.3)

Key: TT-Trained Teachers; NTT-Non-Trained Teachers

The results on table 4.11 show that majority 23(76.7%) of the respondents who had been trained on CBC and majority 23(39.7%) of the respondents who had not received training on CBC agreed that the CBC is relevant to learners' needs. This means that both groups perceived the curriculum as relevant. In regard to individual learning, majority 23(76.7%) of the respondents who had been trained on CBC and majority 39(67.2%) of respondents who had not attended any training agreed that it was very true that CBC enables learners to learn at their own pace. In addition, majority 20(66.7%) of the respondents who had received training and majority 29(50.0%) of the respondents who had not been trained indicated that it is true that CBC enables learners to acquire values that are useful in the society. This means that both, the respondents who had received training on CBC and those who had not received training on how to implement the curriculum had the same view that the curriculum could help learners acquire values which will make them fit in the society.

Further, majority 25(83.0%) of the respondents who had received the training and majority 32(55.2%) of those who had not been trained indicated that it was very true that CBC was interesting to learners. Also, majority 26 (86.7%) of those who had received training and majority 24(41.4%) of those who had not been trained agreed that it was very true that CBC enables learners to develop their talents. This is an indication that those teachers who had been trained how to implement the curriculum and those who had not receive the training had the same view that the curriculum is interesting and it helps in nurturing learners' talents.

In addition, majority 18(60.0%) of the teachers who had been trained agreed that that it was very true that the curriculum engages parents. While majority 20(34.5%) of those who had not received training indicated that it was true that the curriculum engages parents in ways that support learning. Further, majority 23 (76.7%) of the respondents who had attended the training and majority 39(67.2%) of those who had not received the training agreed that it is true that CBC enables learners to develop their creative skills. The results show that teachers who had received training on CBC and those who had not been trained had the same view that the curriculum engages parents in ways that support learning. They both also agreed that the curriculum will help nurture learners' creativity.

Further, majority 33(56.3%) of the respondents who had been trained and majority 21(73.9%) of those who had not been trained on how to implement the curriculum, agreed that it was true that the Curriculum enhances learners' self- efficacy. Further, majority 25(83.0%) of the respondents who had been trained and majority 18(31.0%) of those who had not been trained on how to implement the curriculum agreed that it is very true that formative assessment which is emphasized by the curriculum help teachers to address gaps in instruction. This means that the teachers who had received training and those who had not been trained both were of the opinion that the curriculum will enhance learners' levels of self-efficacy. Also, they were of the view that formative assessment is important as it helps to identify gaps to be address for better teaching-learning.

Finally, majority 24(80.0) of the teachers who had received training on how to implement the curriculum, indicated that the curriculum was not difficult to

implement. Whereas majority 35(60.3) of the respondents who had not received any training on the curriculum were not able to tell if the curriculum was difficult to implement or not. Lack of response from those who had not been trained could be because they had not been trained, so it could be that they felt that it could be easy to implement the curriculum once they get trained.

Generally, it can be concluded that teachers who had attended CBC training and those who had not been trained had positive perceptions about the Curriculum. This was also echoed during the interviews as reported:

“When CBC was introduced, teachers took it as a passing cloud and thought that there were no assessments to be done but currently there is a change in attitude” Head teacher 5

“Teachers have reached a level where they accept that CBC is there to stay, so all they need is more training opportunities” Center manger 5

“Teachers see the curriculum as easy to implement if only they are adequately trained and well facilitated” Head teacher 6

“Teachers perceive the curriculum as a good curriculum and with appropriate support, it will help the learners” Center manger 6

“Teachers embrace the curriculum and it is easy to implement with more preschool teacher training” Center Manager 7

“Teachers rate the curriculum as fairly good, since they are able to identify the talent of a child and nurture it” Head teacher 7

“Most teachers say that CBC is not difficult to implement and it is important for the learners” Head teacher 8

“Teachers take the CBC curriculum positively if only well inducted on how to implement it” Center manager 8

The Concern-Based Adoption Model (CBAM) by Hall, Hord and Rutherford (2006) asserts that successful implementation of a new program may not only occur by gaining new skills but also by changing individuals’ perceptions. By doing this, the

staff's comfort and competence level will increase, making them shift their focus from personal concerns to focusing on the desired outcomes of the program. This means that if the teachers have positive perception about the CBC, it will increase their desire to implement it.

The findings agreed with the findings reported by Ondimu (2018) who delved to establish teachers' readiness to implement the CBC in private preschools in Nairobi County. The study established that majority (37.6%) of the preschool teachers perceived the CBC as a good curriculum. On the other hand, these findings differ with the findings of a study carried out by Gobingca, Athiemoolam and Blignut (2017) who carried out a study in Mthantha district, South Africa and the results showed that teachers had negative perceptions on the curriculum due to lack of support from school administrators, heavy workload, high learner teacher ratio and influence from the Union of teachers.

Further, the findings contradict with Park and Sung (2018) study that examined teachers' perceptions of the recent curriculum reforms and their implementation and found that teachers generally harbor negative and unconstructive feelings about curriculum reform. These feelings negatively impacted their involvement in and commitment to implementing reform. Further, the findings differ with Abudu and Mensah (2016), who investigated on basic school teachers' perceptions about the new curriculum in Ghana. The study found out that the level of teachers' perceptions towards the curriculum was low which caused minimum use of the new curriculum across schools. Therefore, based on the results which were obtained in this study, it

can be concluded that the pre-primary school teachers in public primary schools in Nairobi City County have positive perceptions toward the curriculum.

4.5.1 Hypothesis 2: Relationship between Pre-primary school Teacher’s Perceptions towards CBC and their ability to implement the Curriculum

The relationship between teachers’ perception towards CBC and their ability to implement the CBC in public pre-primary schools was computed using Chi-square to test the hypothesis that stated:

H₀₂ There is no relationship between pre-primary school teachers’ perceptions towards CBC and their ability to implement the CBC in public pre-primary schools at .05 level of significance.

Table 4.12 presents findings on Chi-square computation for the above hypothesis

Table 4.12
Teachers’ Perception and Implementation of CBC

	Value	Df	Asymp. Sig. (2-sided)	Asymp. Sig. (2-sided)	Asymp. Sig. (1-sided)
Pearson Chi-Square	.271 ^a	2	.603		
Continuity correlation					
Likelihood Ratio	.035	2	.651		
Fisher’s exact test	.271		.602	.743	.426
Linear-by-Linear Association	28.938	1	.608		
N of Valid Cases	88				

Table 4.12 indicates that the calculated Chi-square was 0.271 at 2 degrees of freedom with a significance value $p=0.603 > 0.05$. The calculated p value was higher

than the critical value 0.05. This shows that there was no significant relationship between teachers' perception towards CBC and their ability to implement the CBC in public pre-primary schools. The null hypothesis was therefore accepted based on this finding. This shows that implementation of CBC in public pre-primary schools in Nairobi City County was not influenced by teachers' perception towards CBC.

These findings differ with the findings from Adebayo (2014) who conducted a study in Nigeria that sought to determine teachers' perception on new Basic Education Curriculum in Ekiti State, Nigeria. The results revealed that the perceptions of teachers were negative due to lack of awareness about the curriculum; as a result, there was minimal use of the revised basic curriculum in the sampled schools. Further, the findings contradict with the findings which were reported by Ayodele (2015), who studied teachers' perceptions in implementation of the revised curriculum in Nigeria. The findings revealed that majority of teachers had negative perceptions towards the curriculum which hindered them from effectively implementing it. Similarly, the findings differ with those reported by Odey and Opoh (2015), who conducted a study in Nigeria on challenges hindering curriculum implementation in tertiary institutions. The findings revealed that failure of the implementation process was mostly caused by tutors' negative perceptions about the curriculum.

Most of the reviewed studies indicate that teachers' perceptions about a curriculum hinder its implementation in schools. This is contrary to what was established in this study, where by the pre-primary school teachers had positive perceptions about CBC but had challenges in implementing the curriculum. The responses indicated that the

teachers were willing to implement the curriculum but they experienced difficulties because they lacked adequate knowledge and skills on how to implement the curriculum. Therefore, it can be concluded that adequate training of teachers will enhance implementation of the curriculum.

4.6 Objective 3: Relationship between Teachers' Technological Skills and their ability to implement the CBC

The respondents were given a list of statements describing the extent to which pre-primary school teachers are able to use Information Communication and Technology (ICT) in implementing the CBC. All (88) respondents were asked to indicate the extent to which they agreed with the statements, the results are presented in table 4.13.

Table 4.13**Teachers' Technological Skills**

Statements	Number of teachers in frequencies and percentages				
	Very true	True	I am not sure	Not true	No Response
I have a training on general use of computers	11(12.5%)	10(11.4%)	4(37.5%)	63(71.6%)	0(0.0%)
I have received training on how to use digital devices in teaching e.g., computers, smart phones, tablets, laptops	0(0.0%)	11(12.5%)	10(37.5%)	67(76.1.0%)	0(0.0%)
I can open, close, save and rename a file in a digital device e.g., a laptop, tablet, computer	11(12.5%)	10(11.4%)	13(14.8%)	54(61.4%)	0(0.0%)
I can download learning materials from the internet	0(0.0%)	21(23.9%)	34(38.6%)	33(37.5%)	0(0.0%)
I can use application programs e.g., Microsoft Word to type lesson materials	0(0.0%)	20(22.7%)	33(37.5%)	35(39.8%)	0(0.0%)
I can use email to engage parents in class activities	11(12.5%)	10(11.4%)	23(26.1%)	44(50.0%)	0(0.0%)
I can use a digital camera, a computer or a smart phone to produce videos and songs which can facilitate learning	0(0.0%)	10(11.4%)	26(29.5%)	42(47.7%)	10(11.4%)
I can save learners' progress records in a computer	11(12.5%)	9(10.2%)	24(27.2%)	36(40.9%)	0(0.0%)

The results on Table 4.13 show that majority 63(71.6%) of the respondents indicated that they had not undergone any training on how to use computers. Also, majority 67(76.1.0%) of the respondents indicated that they had not received training on how to use digital devices in teaching-learning. Whereas another majority 54(61.4%) of the respondents indicated that they were not able to open, close, save and rename a file on a digital device. In addition, majority 34(38.6%) of the respondents indicated that they could not download learning materials from the internet, while another majority 35(39.8%) of the respondents indicated that they were not sure that they could use application programs such as Microsoft Word to prepare for lessons. Further, majority 44(50.0%) of the respondents indicated that they were not able to use email to engage parents in class activities, while 42(47.7%) indicated that they were not able to use digital camera, a computer or a smart phone to produce videos and songs which can facilitate learning and finally majority 36(40.9%) indicated that they were not able to save learners' progress records in a computer. In addition, through observations, it was noted that all the sampled schools did not have any digital devices and none of the participants used digital media during lessons. This means that majority of the pre-primary school teachers lacked basic knowledge and skills on use of ICT in teaching-learning.

These findings concur with the findings of a study carried out by Al-Awidi and Aldhafeeri (2017) on teachers' readiness to implement digital curriculum in Kuwaiti Schools. The study reported that teachers were moderately ready for implementation of the digital curriculum as majority of them lacked adequate skills to use digital devices in learning. Similarly, the findings are in agreement with findings by Ngatia (2015) who sought to determine the preparedness of public secondary school teachers

on the use of ICT in teaching and learning in Mukurweini, Nyeri County-Kenya. The study found out that the teachers rarely used computers in teaching and learning, due to lack of adequate knowledge on how to use computers in instruction. Further, it reported that teachers were found not adequately trained and experienced in the use of ICT, thus they had very low self confidence in use of ICT in teaching and learning. Similar findings were reported by Wambiri and Ndani (2014) who carried out a study to establish teachers' preparedness in integrating ICT in lower primary schools in Kasarani Sub-County, Kenya. The study reported that the largest proportion (63.1%) of teachers had low perceived competence in their ability to teach using computers.

The results obtained from this study give a clear indication that majority of the pre-primary school teachers in public pre-primary schools in Nairobi City County lack basic knowledge and skills to use ICT in teaching-learning. Lack of skills on use of ICT in instruction will affect implementation on CBC. This is so because the curriculum requires teachers to infuse digital literacy in teaching-learning. Therefore, if the teachers do not have the ability to use digital devices, they will not be able to help learners to acquire competencies in digital literacy. Therefore, there is need for the teachers to be trained on how to use digital media in instruction.

4.6.1 Hypothesis 3: Relationship between teachers' technological skills and implementation of CBC

The relationship between teachers' technological skills and their ability to implement the CBC in public pre-primary schools was computed using Chi-square to test the hypothesis that stated:

H₀₃ There is no relationship between teacher’s technological skills and their ability to implement the CBC in public pre-primary schools at .05 level of significance.

Table 4.14 presents findings on Chi-square computation for the above hypothesis

Table 4.14

Teachers’ Technological Skills and Implementation of CBC

	Value	df	Asymp. Sig. (2-sided)	Asymp. Sig. (2-sided)	Asymp. Sig. (1-sided)
Pearson Chi-Square	16.364 ^a	2	.001		
Continuity correlation	12.929				
Likelihood Ratio	21.024	2	.000		
Fisher’s exact test			.002	.001	.002
Linear-by-Linear Association	28.938	1	.001		
N of Valid Cases	88				

Table 4.14 indicates that the calculated Chi-square was 16.364 at 2 degrees of freedom with a significance value $p=0.001$, <0.05 . The calculated p value was less than the critical value 0.05. This shows that there is a statistically significant relationship between the teachers’ technological skills and their ability to implement the CBC in public pre-primary schools. The null hypothesis was therefore accepted based on this finding. This shows that teachers ‘ability to implement the CBC in public pre-primary schools is influenced by teachers’ technological skills. This agrees with the Concern-Based Adoption Model (CBAM) by Hall, Hord and Rutherford (2006), which explains that new programmes in learning institutions come and go, often with little improvement to show for the effort. In many cases the problem may not lie with the new program but with faulty implementation caused by staff who lack

expertise in it. This means that if the teachers lack the technological skills required to implement the curriculum effectively, little will be achieved from the Curriculum.

Further, the findings concur with findings by Ghavifekr and Rosdy (2015) who explored teaching and learning with technology: Effectiveness of ICT integration in schools. The study reported that teachers' preparedness to use ICT tools and facilities is one the main factors in success of technology-based teaching and learning. Also, the findings also agree with findings which were reported by Wanga (2014) whose study explored factors influencing information communication technology integration in curriculum implementation in secondary schools: a case of Gilgil sub-county, Nakuru county-Kenya. The study found that there was a significant positive relationship between teachers' knowledge of ICT and ICT integration in curriculum implementation. Further, Wanga reported a significant positive ($r=0.49$; $p<0.05$) relationship between teachers' knowledge of ICT and ICT integration in curriculum implementation.

It is therefore evident that teachers' technological skills can influence implementation of CBC in public pre-primary schools. According to Kapur (2019), when teachers make use of digital media to impart awareness among learners in terms of academic concepts, they are able to stimulate their mind-sets and arouse zest among them. Therefore, it is important that pre-primary school teachers are trained on how to use ICT in delivering the CBC in public pre-primary schools.

4.7 Objective 4: Challenges Teachers Face in Implementation of the CBC

To establish challenges faced by teachers in implementing the curriculum, the teachers were asked to indicate in the questionnaire the challenges they experienced in

implementing the curriculum. Further, during the interviews, the head teachers and center managers were also asked to explain the challenges faced by the pre-primary school teachers in implementing CBC. Following are the challenges which were highlighted by the respondents:

i) Lack of adequate school infrastructure

The teachers indicated that they experienced difficulties in implementing the curriculum due to lack of adequate learning facilities such as classrooms, chairs and tables. The teachers reported that most of the public pre-primary schools had high enrollment yet, there were inadequate classrooms to accommodate the high numbers. They further explained that the situation was getting worse each day to an extent that two learners share one chair while others lacked tables to write on. Similarly, the head teachers and the center managers also indicated that lack of adequate infrastructure in public pre-primary schools as a big challenge to implementation of the curriculum as reported:

“Implementation of CBC in pre- primary school is challenged by lack of learning facilities, for instance, the available classrooms are not adequate. There are approximately 68 learners in each of the classrooms, PPI and PP2. This is a very high number accommodated in one classroom” Head teacher 9

“We lack enough classrooms and furniture, so we are forced to combine pp1 and pp2 learners. This makes the class congested; no fresh air and teachers are not able to attend to each individual learner as required by the curriculum” Center manager 9

Based on the responses, it can be concluded that most schools have inadequate facilities to cater for the teachers’ and learners’ needs. The situation has been aggravated by the upsurge in enrollment due to implementation of the free primary education strategy. Similar findings were reported by KNUT (2019) who highlighted

that implementation of the curriculum was a challenge due to overcrowded classrooms due to extremely high learners' enrolment and lack permanent classrooms which has led institutions to combine some learners of different grades. The findings also concur with the findings of a study carried out by Njoroge (2013) that assessed on factors affecting curriculum implementation in public primary schools in Suswa Division, Narok County, Kenya and revealed that inadequate physical facilities affect curriculum implementation. It was also established that material and facilities were inadequate for effective curriculum implementation. The findings also agree with the findings by Makunja (2016), who investigated challenges facing teachers in implementing the competency-based curriculum in Tanzania. The study highlighted lack of infrastructure and overcrowded classrooms as part of the challenges which hindered effective implementation of CBC in Tanzanian schools.

It is evident that lack of appropriate and adequate infrastructure can hinder implementation of CBC. Therefore, priority needs to be given to construction of more classrooms to accommodate the high numbers of learners in public pre-primary schools.

ii) Inadequate training of teachers on CBC

The pre-primary school teachers indicated that they embraced CBC however, they were not able to effectively implement it due to lack of adequate knowledge and skills on how to implement the curriculum. This was also echoed during the interviews with the head teachers and the center managers as reported;

“Pre-primary school teachers lack adequate understanding about CBC, this is because they were not included in the trainings which were being conducted by the KIE, TSC and KNEC which the pre-primary teachers are not part. This is because ECD is under the County Government of Nairobi. The few pre-

primary school teachers who have been trained on the curriculum are those who were teaching in lower primary in other schools before being employed by the County to teach in preschool” Head teacher 10

“Majority of the ECDE teachers have not been trained on CBC. The trainings are conducted by T.S.C and they base it mostly on primary schools because the ECDE section is under the County Government” Center manager 10

“The preschool teachers have not undergone as much training as teachers in primary grades. We have not been trained but we were asked by the Ministry officials to say that we have been trained whenever we are asked.” Center Manager 11

This shows that pre-primary school teachers have not received adequate training on how to implement the curriculum. The findings agree with the findings by KNUT (2019) who reported that teachers had difficulties in implementing the curriculum because they lacked adequate training. The report further highlighted that CBC training sessions were inadequate, ineffective and the duration was short. This finding is also in line with what was reported by Momanyi and Rop (2019) who conducted a survey in Bomet East Sub-County which sought to establish challenges faced by teachers when implementing CBC. The results showed that teachers’ lack of adequate knowledge and skills on how to implement the curriculum was the major factor hindering effective implementation of the CBC. On the same breath, a study by Paulo (2014) on pre-service teacher preparedness in integrating competency-based curriculum in secondary schools in Tanzania, reported that the pre-service teachers were not trained on new assessment methods and how to prepare lesson plans as stipulated in the competency-based curriculum. As such, they were still using traditional methods of teaching and assessment.

Similarly, Muneja (2015) highlighted the challenges facing implementation of CBC in Tanzania. The study reported that teachers' lack of adequate knowledge on teaching and assessment methods negatively affected implementation of the Curriculum. Therefore, it can be concluded that lack of adequate training of teachers can hinder effective implementation of CBC in pre-primary schools. Thus, there is need for the government to provide more opportunities for teacher training on implementation of CBC.

iii) Lack of adequate teaching-learning materials

Further, the pre-primary school teachers pointed out that they lacked adequate CBC instructional materials. The teachers reported that they did not have adequate textbooks and activity work books for learners. In addition, the teachers explained that sometimes they were forced to request parents to buy workbooks for their children, but some parents did not have the financial ability to do so. In such situations, the learners without workbooks were forced to use the common exercise books to do the same work others do using workbooks. This was reported to be hectic for the teachers who were then forced to copy what was in the workbooks in the learners' exercise books. The same challenge was echoed by the head teachers and center managers as reported:

“Implementation of CBC in pre-primary school is challenged by lack of pupil work books and lack of funds for pre-primary school learning. For proper implementation of the curriculum, there should be provision of more work books for the pupils and more in-service training on CBC to pre-primary school teachers” Head teacher 11

“Curriculum implementation is an issue in preschool due to lack of enough teaching-learning materials. Most of the teachers are using materials which were provided by the Tayari Training Programme yet CBC is upgraded.” Center Manager 11

“As teachers we lack adequate learning materials and resources. Pupils lack activity books. Also, we have problems with the parents who do not understand the CBC, therefore they do not provide the books for their children” Center Manager 12

This shows that public pre-primary schools had shortage of teaching-learning materials which hindered effective implementation of the curriculum. These findings concur with the report by KNUT (2019) which highlighted that majority of CBC learning areas did not have approved books, materials and the Government had delayed the distribution of textbooks to schools. The findings also agree with Mugabo, Ozawa and Nkundabakura (2021) who conducted a case study which explored the relationships between a school profiles and capacity to implement CBC in Rwanda. Findings from the study indicated that implementation of the curriculum was challenged by inadequate teaching-learning resources and lack of infrastructural capacity of the schools. On the same breath, Ndayambaje (2016) highlighted the challenges facing implementation of CBC in Rwandan schools. The study reported lack of sufficient teaching-learning resources as one of the issues hindering effective implementation of CBC in primary schools in Rwanda. This implies that lack of adequate instructional materials can hinder implementation of CBC in public pre-primary schools in Nairobi City County. Therefore, there is need for provision of adequate resources and CBC instructional materials in the schools.

iv) Large class size and inadequate number of teachers

In addition, the pre-primary school teachers reported that they experienced difficulties handling many learners in classrooms. The teachers explained that the curriculum requires learning to be hands-on, that means that each learner should be involved in

the learning activities. Teachers expressed that this was not practical in public pre-primary schools where enrollment is so high with one teacher in each grade. Same sentiments were shared by the head teachers and center managers as reported:

“Implementation of the CBC in Kenyan schools calls for provision of infrastructure development program fund to cater for more class room to accommodate the growing number of pupils and rationalization of the number of teachers to learners and employment of more teachers” Head teacher 13.

“Large class size is a challenge, for example in this school we have four pp1 and pp2 streams with over 300 pupils, yet there is only one teacher employed by the county, because of the teacher shortage as the center manager with the help of the head teacher, we employed 3 teachers whom we pay through the money we ask parents to contribute” Center manager 13

“There are very few teachers and pupils are many, so the teachers cannot attend to each individual in class as the CBC requires” Center Manager 14

This shows that the number of pupils per class is not manageable in respect to the number of teachers and facilities provided for the implementation of CBC in public pre-primary schools. This means that the teachers are not able to implement the Curriculum as expected. This finding is in agreement with the findings of a study carried out by Wadesango, Hove and Kurebwa (2016) on the effects of a large class size on effective curriculum implementation and found that the current teacher to pupil ratio of 1:40 was too large. Hence, both the head teachers and teachers felt that it should be reduced to as low as 1:30. The respondents felt that a large class is not conducive to cater to individual differences. The findings also agree with the findings by Hipolite (2019) which explored the challenges of implementing CBC in public secondary schools in Morogoro Municipality Tanzania. The study reported that teachers were faced with many challenges including handling large number of pupils in classes, which hindered effective implementation of the Curriculum.

Based on the results, it is evident that teachers are grappling with a number of challenges including many learners against one teacher in a class. Given that the Curriculum emphasizes on engaging learners in activities to help them acquire skills and competencies, it is difficult for one teacher to engage many learners in a class. This will hinder effective implementation of the curriculum in public pre-primary schools. Therefore, there is need for more classrooms and employment of more teachers in the schools.

v) Lack of Cooperation from Parents

Finally, the teachers reported that they had difficulties dealing parents who were not cooperative. The teachers explained that the parents lacked adequate understanding about the curriculum hence, they were not supportive in implementing it. Similarly, the head teachers and center managers observed the same as reported;

“Implementation of CBC in pre- primary school is challenged by lack of cooperation and ignorance from parents.” Head teacher 15

“There is lack of parental engagement. The parents have the notion that education in public pre-primary schools should be free, therefore anything that demand for cash makes them react” Center Manager 15

“Teachers are hindered by lack of cooperation from parents and ignorance from parents hence they don’t cooperate with teachers” Center Manager 16

This is an indicator that parents lack proper understanding of the curriculum hence; they are not fully participating in the process of implementing it. This finding agrees with the findings of Kariuki (2014) study that evaluated the influence of parental involvement in the implementation of curriculum in public primary schools in Ndeiya zone, Kiambu County, Kenya and found that lack of involvement of parents in school

activities hinders efforts to actualize the curriculum. The same was echoed by Olibie (2014) who investigated the influence of parental involvement in curriculum implementation as perceived by Nigeria Secondary School Principals. The study established that there was little extent of parental involvement in curriculum implementation in schools. Similarly, Sifuna and Obonyo (2019) examined the challenges hindering effective implementation of CBC in Kenya. The study highlighted that there was inadequacy of instructional materials and lack of participation by parents in the curriculum implementation process.

Further, the findings concur with the findings by Mwarari, Githui and Mwenje (2020), who explored the perceived challenges of involving parents in implementation of CBC in early years education. The study reported that lack of training for parents to understand what CBC is all about, challenged the implementation process. This means that engaging parents in learning as required by CBC may not be successful if the parents are not sensitized on its importance and how they need to play their roles. Therefore, there is need for the County government in collaboration with the schools to create an adequate framework for sensitizing parents on the CBC.

4.8 Contribution to the Existing Body of Knowledge

The study has made the following contributions to the existing body of knowledge; first, a number of studies have delved to establish the preparedness of teachers to implement CBC in schools. However, many of such studies have focused in private pre-primary schools and lower primary grades in public schools. Hence, not much was known about the preparedness of pre-primary school teachers to implement the curriculum in public pre-primary schools. Therefore, this study has filled the gap by

reporting that majority of the pre-primary school teachers in public pre-primary schools lack adequate understanding about CBC. This is because the teachers were not included in the trainings which were conducted by the Ministry of Education. The reason for this is that Early Childhood Education (ECD) is a function which is under the County Governments; thus, it is the mandate of the County Government of Nairobi City to ensure that pre-primary school teachers in public schools are trained and prepared to implement the curriculum.

Second, the existing studies conceptualized teacher preparedness as the extent to which teachers had been trained in CBC. No study had delved to establish how pre-primary school teachers' technological skills influence implementation of the curriculum in public pre-primary schools. Yet, the curriculum emphasizes on digital literacy which is one of the core competencies that learners should acquire. Therefore, it was important to find out how prepared teachers are to integrate ICT in teaching-learning in this era of CBC. Therefore, the current study filled this gap by establishing that teachers lacked basic technological skills. Majority of them indicated that they could not carry out various teaching-learning activities using digital devices, which affected their ability to implement the curriculum.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings, conclusions drawn and recommendations made to various stakeholders and suggestions made for further research.

5.2 Summary

Objective one of the studies sought to establish the extent to which teachers had been trained on CBC and how this influenced their ability to implement the curriculum in public pre-primary schools in Nairobi City County, Kenya. The study established that majority (65.9%) of the teachers had not attended any training on how to implement the curriculum. The few (34.1%) teachers who had attended the training reported that the training was mostly done once, termly and the length of training lasted mostly for one week. In addition to that, the training covered various areas of the curriculum. This was evident where the results confirmed that most of the teachers who had undergone training indicated to a larger extent that they could handle tasks related to the areas which they had received training on, but with support.

On the other hand, the teachers who had not been trained indicated to a larger extent that they had difficulties in handling the areas even with support. This implies that the teachers who were trained benefited from the training however, they could not handle many areas of the curriculum independently as they indicated that they still needed support. This means that they still need more training on how to implement the curriculum. Further, the study established a significant relationship between teachers' training on CBC and their ability to implement the CBC with a significance value

$p=0.000<0.05$. This showed that implementation of CBC in the public pre-primary schools was influenced by the extent to which the pre-primary school teachers had been trained on CBC.

The second objective sought to determine the relationship between pre-primary school teacher's perception and their ability to implement the CBC in public pre-primary schools in Nairobi City County, Kenya. The study found out that both teachers who had attended CBC training and those who had not been trained had positive perceptions about the Curriculum. It was observed that all the pre-primary school teachers in public pre-primary schools in the County had reached a level where they accepted the Curriculum, but they were not able to implement it effectively because they lacked training opportunities. Further, the study established that there was no significant relationship between teachers' perceptions about CBC and their ability to implement the Curriculum in public pre-primary schools with a significance value of $p=0.603>0.05$. Therefore, the ability of teachers to implement the CBC in public pre-primary schools in Nairobi City County was not influenced by teachers' perception about the curriculum.

The third objective sought to establish the relationship between teacher's technological skills and their ability to implement the CBC in public pre-primary schools in Nairobi City County, Kenya. The study established that teachers lacked basic technological skills. This was reported by majority of the teachers who indicated that they could not carry out various teaching-learning activities using digital devices. In addition to that, the study established that there was a significant relationship between teachers' technological skills and their ability to implement the CBC in

public pre-primary schools with a significance value of $p=0.001<0.05$. This shows that the teachers' ability to implement the CBC in public pre-primary schools was influenced by their technological skills.

Lastly, the fourth objective sought to establish the challenges faced by the pre-primary school teachers in implementation of CBC in public pre-primary schools in Nairobi City County, Kenya. The study established that the teachers were grappling with a lot of challenges which hindered effective implementation of the curriculum. The challenges include; lack of adequate learning facilities, lack of adequate training of teachers on CBC, large class sizes, lack of adequate teachers, lack of adequate teaching-learning materials and ignorance and lack of cooperation from parents.

5.3 Conclusions

Based on the findings of the study the following conclusions were made:

The study concluded that there was a statistically significant relationship between teachers' extent of training on CBC and their ability to implement the curriculum in public pre-primary schools in Nairobi City County. Majority of the pre-primary school teachers in public pre-primary schools had not received any training on how to implement the curriculum. The few who had been trained still lacked adequate knowledge and skills in handling various areas meant to be integrated in the curriculum. Therefore, it can be resolved that the teachers were not fully prepared to implement the curriculum, which calls for more training opportunities.

In addition, it was concluded that there was no significant relationship between teachers' perception towards CBC and their ability to implement the curriculum in

public pre-primary schools in Nairobi City County. All pre-primary school teachers had positive perceptions about the curriculum and they were willing to implement it, however, they lacked the ability to do so due to lack of adequate in-service training on how to implement the curriculum.

Further, the study concluded that there was a statistically significant relationship between teachers' technological skills and their ability to implement the CBC in public pre-primary schools in Nairobi City County. The pre-primary school teachers lacked prerequisite technological skills thus, were not able to effectively infuse digital literacy in teaching- learning.

Lastly, the study concluded that implementation of CBC is greatly challenged by lack of adequate learning facilities, lack of adequate training of teachers on CBC, large class sizes, lack of adequate teachers, lack of adequate teaching-learning materials and ignorance and lack of cooperation from parents who argued that basic education is free in public pre-primary school so anything that demanded for money made them react against the Curriculum.

5.4 Recommendations

Based on the findings and conclusions of this study, following recommendations for improving implementation of CBC in public pre-primary schools were made;

- i. That the Nairobi City County Government should adequately create a regular in-service training program for pre-primary school teachers' preparation on how to implement the curriculum. A comprehensive and consistent training of the teachers will prepare them on the paradigm shift from teaching to learning.

- ii. The County government in collaboration with other stakeholders in the education sector should take advantage of the positive perceptions which the pre-primary schools' teachers have towards the curriculum, and equip them with necessarily knowledge and skills for effective implementation of the CBC in public pre-primary schools.
- iii. The KICD in collaboration with the Nairobi City County Government should develop and distribute digital learning resources to public pre-primary schools to enable the teachers infuse digital literacy in learning. Further, the County government should device in-service training programs on use of ICT in teaching-learning to equip the teachers with the requisite knowledge and skills in integrating technology in classrooms.
- iv. Adequate learning facilities and resources are paramount for effective implementation of the curriculum. Therefore, the Nairobi City County Government should construct more classrooms, employ more teachers and provide adequate teaching-learning materials to cater for the high enrollment in public pre-primary schools. In addition, the County government in collaboration with the schools should sensitize parents to help them understand what CBC is all about and their role in the implementation process.

5.5 Suggestion for Further Studies

The current study investigated the relationship between teacher preparedness and implementation of the CBC in pre-primary schools in Nairobi City County, Kenya. Teacher preparedness was measured in terms of pre-primary school teachers' extent of training, technological skills and teachers' perceptions. Therefore, other studies can be carried out to establish how other teacher related factors influence implementation of the CBC in public pre-primary schools.

In addition, this study focused to establish how teacher preparedness influences implementation of the CBC in public pre-primary schools in Nairobi City County. However, there may be other factors which may affect implementation of CBC in public pre-primary school in the County and other counties in Kenya, which other studies can delve in.

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APPENDICES

Appendix I: Letter of Introduction

**Kenyatta University
School of Education
Department of Early Childhood and Special Needs Education
P.O. Box, 43844-0010
Nairobi.**

To: Head teacher

.....

Dear Sir/Madam

REF: PARTICIPATION IN RESEARCH

I am a postgraduate student in Kenyatta University undertaking doctor of philosophy in early childhood studies. I am carrying out field research which is a partial requirement for the award of doctoral degree, the purpose of the research is to establish teacher preparedness in implementation of the Competency Based Curriculum in public preprimary schools in Nairobi County, Kenya.

Your school has been randomly selected to participate in this study, therefore, requesting that you allow me to collect data from this institution. The information that will be obtained from you and the teachers will be highly confidential and will only be used for the purpose of this study. Be assured that the information will not be published in any manner that will enable identification of participants. Your sincere cooperation and contribution to this study will be highly appreciated.

Thank you.

Yours Faithful,
Harriet Isaboke.

Appendix II: Letter of Consent

Dear Sir/Madam

I am a postgraduate student in Kenyatta University undertaking Doctor of Philosophy in Early Childhood Studies. I am carrying out field research on which is a partial requirement for the award of doctoral degree, the purpose of the research is to establish teacher preparedness in implementation of the Competency Based Curriculum in public pre-primary schools in Nairobi County, Kenya. Your school has been randomly selected to participate in this study, therefore, requesting that you allow me to collect data from this institution. The information that will be obtained from you and the teachers will be highly confidential and will only be used for the purpose of this study.

The pre-primary school teachers will be given questionnaires to fill for a maximum of thirty minutes on the topic under investigation. The researcher will also observe the teachers in class during lessons and go through documents which are used by the teachers in the preparation, implementation and evaluation of teaching and learning. Follow-up interviews will be conducted with the head teacher and the center manager which may take a maximum of forty minutes. Please be informed that all responses may be recorded using a recorder. You will be allowed to ask questions about the research and be given an opportunity to view the notes of the researcher, in order to confirm the findings.

There are no payments as a form of incentive for participating in this research. The findings of the study will be beneficial to the Ministry of Education, the County Government of Nairobi City and other relevant stakeholders, and will therefore benefit teachers indirectly. There are no foreseeable risks or inconveniences if you

decide to be part of this research. The researcher does not expect anything from you, except your input during data collection exercise. Your participation is free and voluntary. You are under no obligation to consent to participate. If you agree to take part, you will be requested to sign a written consent form and be given a copy to keep for yourself. You are free to withdraw your participation at any time and without giving reasons.

The names of all participants will remain anonymous. The findings of this research will not reveal your names, and no one will ever know or be able to identify the source of the answers. The researcher guarantees your anonymity and the confidentiality of your responses. By signing this consent form, you are voluntarily agreeing to participate in the research. For any enquiries about the study, please contact: Miss. Harriet Isaboke 0797857231 E-mail: harrietisaboke@gmail.com. I would like to thank you in advance for your participation in this research.

Statement of Consent

I..... understand that my participation is voluntary and that I may withdraw from the research study at any time without any penalty or prejudice. I also understand that by signing below, I agree that this research study has been explained to me in full, and will take full responsibility to answer any questions in the research. I understand that my privacy will be protected. By signing this form, I am agreeing to participate in the research study until the end.

Participant
Signature..... Date

Researcher
Signature..... Date.....

Appendix III: Pre-Primary School Teachers' Questionnaire

Instructions

This questionnaire is intended to collect information related to implementation of the Competency Based Curriculum in public pre-primary grades in Nairobi City County, Kenya. You are requested to honestly complete the questionnaire by ticking the right answer for each question. Do not write your name or any detail that you feel will lead to your identification. Information in this questionnaire will be kept confidential and used for the purpose of the study. The questionnaire is divided into five sections, kindly respond to each question in all sections by ticking the right choice.

Section One: Demographic Information

1. What is your gender?

Male () Female ()

2. What is your age bracket?

19-20 years () 21-30years () 31-40years () 41-50years ()

Over 50years ()

3. What is your highest level of Education?

a. Certificate ()

b. Diploma ()

c. Bachelor's Degree ()

d. Masters ()

e. Doctor of Philosophy ()

4. How many years have you taught in pre-primary school?

0-10years () 11-20years () over 21years ()

5. What grade are you currently teaching?

Pre-primary 1() Pre-primary 2 ()

Section Two: Teachers' Training on CBC

Instructions

1. Have you attended any training on Competence Based Curriculum?

Yes No

2. If yes, how many times have you attended such training?

Once Twice Thrice More than three times

3. How long were the training sessions?

Half a day () One day () Two days () Three days () Four days ()

Five days () One week () More than a week ()

4. How frequent are the trainings done?

Monthly () Termly () Yearly ()

5. Would you say that you have benefitted from the training(s) which you have attended?

Yes () No ()

6. Tick against the topics that you have been trained, indicate the number of times you have been trained on each of the following topics and the extent to which you are able to handle tasks relating to each topic.

Topic	Tick if you have had training related to CBC on each of these topics	Number of times you have been taught	To what extent are you able to perform tasks related to the topic?				
			Easily (Without Support)	I can handle with support	I have difficulties even with support	I cannot handle at all	No response
Schemes of work preparation							
Lesson plan preparation							
Learning areas							
Writing learning outcomes							
Core-competences							
Engaging parents							
Pertinent and contemporary issues							
Community Service learning							
Non formal service activity to support learning through application							
Assessment	Assessment Rubrics						
	Formative assessment						
	Summative assessment						

Section Three: Teachers' Perceptions about the CBC

7. The following statements describe the way pre-primary school teachers interpret the CBC. Please indicate using a tick the extent to which you agree with the statements.

Statement	Very true	True	I am not sure	Not true	No Response
The CBC is very relevant to learners' needs					
The CBC enables learners to learn at their own pace					
The CBC enables learners to acquire values that are useful in the society					
The CBC is interesting for learners					
The CBC enables learners to develop their talents					
The CBC engages parents in ways that support learning					
The CBC contributes to the development of pupils' creativity					
CBC enhances self -efficacy of pupils					
Formative assessment helps teachers to address gaps in instruction.					
The CBC is difficult to implement					

Key: Very True=5, True=4, not sure =3, Not True=2 and No Response=1

Section Four: Teacher's Technological Skills

8. The following statements describe the extent to which pre-primary school teachers are able to use Information Communication and Technology (ICT) in implementing the CBC. Please indicate using a tick the extent to which you agree with the statements.

Statement	Very true	True	I am not sure	Not true	No Response
I have a training on general use of computers					
I have received training on how to use digital devices in teaching e.g., computers, smart phones, tablets, laptops					
I can open, close, save and rename a file in a digital device e.g., a laptop, tablet, computer					
I can download learning materials from the internet					
I can use application programs e.g., Microsoft Word to type lesson materials					
I can use email to engage parents in class activities					
I can use a digital camera, a computer or a smart phone to produce videos and songs which can facilitate learning					
I can save learners' progress records in a computer					

Key: Very True=5, True=4, not sure =3, Not True=2 and No Response=1

Section Five: Ability to Prepare and Follow CBC Lesson Plans

9. Tick in the relevant columns the extent to which you have demonstrated ability to prepare CBC lesson plans

Task	Very Well	Good	Developing	Needs Support	No response
Ability to design CBC compliant lesson plans in various learning areas					
Ability to prepare lesson plans with specific learning outcomes to facilitate learning in a lesson					
Ability to prepare lesson plans with learning experiences to enable achievement of learning outcomes					
Ability to prepare lesson plans indicating the Core competences to be developed in learners					
Ability to develop key inquiry questions based on the learning outcomes to facilitate learning					
Ability to develop appropriate Learning resources to facilitate learning					
Ability to engage learners in activities which can help them explore learning materials					
Ability to facilitate group learning and problem solving in class					
Ability to prompt learners' critical thinking through questions					
Ability to infuse pertinent and contemporary (PCIs) issues in lessons					

Ability to develop non-formal activities to support learning					
Ability integrates community service-learning activities in lessons					
Ability to use key inquiry questions that prompt learners' interest in knowing what next					
Ability to engage learners in creative activities which enhance their imagination and creative skills					
Ability to inculcate life values in learners					
Ability to use digital devices to facilitate learning					
Ability to engage parents in learning activities					

Key: Very Well=5, Good=4, Developing =3, Needs support=2 and No Response=1

Section Six: Ability to Infuse the Core Competencies in Learning

10. Tick in the relevant columns the extent to which you have demonstrated ability to integrate the core competencies in instruction

Core Competencies	Very Well	Good	Developing	Needs Support	No Response
Ability to infuse Communication and collaboration					
Ability to infuse Critical thinking and problem solving					
Ability to infuse Imagination and creativity					
Ability to infuse Citizenship					
Ability to infuse Learning to learn					
Ability to infuse Self-efficacy					
Ability to infuse Digital Literacy					

Key: Very Well=5, Good=4, Developing =3, Needs support=2 and No Response=1

Section Seven: Ability to Assess Learners' Progress

11. Tick in the relevant columns the extent to which you have demonstrated ability to use assessment rubrics

Task	Very Well	Good	Developing	Needs Support	No Response
Ability to design assessment rubrics					
Ability to use assessment rubrics for continuous assessment of learners					
Ability to provide assessment tasks which measure the attainment of specified competencies in each learning area					
Ability to report and notify learners after formative assessment					
Ability to conduct summative assessment					
Ability to use assessment methods that measures students' understanding, reasoning and critical thinking rather than ability to memorized facts					

Key: Very Well=5, Good=4, Developing =3, Needs support=2 and No Response=1

12. Describe the kind of challenges you face in implementing the CBC?

.....

.....

.....

Appendix IV: Interview Schedule for Pre-Primary School Managers

1. What is your age bracket?
2. What is your highest level of Education?
3. How many years have you worked as the center manager in this school?
4. Have all pre-primary school teachers in your school attended in-service training in the Competency Based Curriculum?
 - a. If yes, how much such training have they attended?
 - b. How long were the training sessions?
 - c. How frequent is the training done?
5. Are the pre-primary school teachers able to prepare CBC lesson plans?
6. Are the pre-primary school teachers able to present a CBC compliant lesson following all the steps provided in the Curriculum designs?
7. Are the pre-primary school teachers able to infuse the core competencies in instruction?
8. What core competencies do they find difficult to infuse in learning?
9. Are the pre-primary school teachers able to use the assessment rubrics to assess learners' progress?
10. Are the pre-primary school teachers able to do formative assessments and give feedback to learners?

11. How is summative assessment done?
12. Are the pre-primary school teachers able to engage parents in class activities?
13. How do the pre-primary school teachers perceive the CBC?
14. Which specific learning areas are they encountering difficulties to instruct and why?
15. Which challenges are hindering effective implementation of the CBC in the pre-primary grades?
16. What can be done to enhance implementation of the CBC in public pre-primary schools?

THANK YOU FOR YOUR COOPERATION

Appendix V: Interview Schedule for Headteachers

1. What is your age bracket?
2. What is your highest level of Education?
3. How many years have you worked as a head teacher in this school?
4. Have all pre-primary school teachers in your school attended in-service training in the Competency Based Curriculum?
 - a. If yes, how much such training have they attended?
 - b. How long were the training sessions?
 - c. How frequent is the training done?
5. Are the pre-primary school teachers able to prepare CBC lesson plans?
6. Are the pre-primary school teachers able to present a CBC compliant lesson following all the steps provided in the Curriculum designs?
7. Are the pre-primary school teachers able to infuse the core competencies in instruction?
8. What core competencies do they find difficult to infuse in instruction?
9. Are the pre-primary school teachers able to use the assessment rubrics?
10. Are the pre-primary school teachers able to do formative assessments and give feedback to learners?

11. How is summative assessment done?
12. Are the pre-primary school teachers able to engage parents in class activities?
13. How do the pre-primary school teachers perceive the CBC?
14. Which specific learning areas are they encountering difficulties to instruct and why?
15. Which challenges are hindering effective implementation of the CBC in the pre-primary grades?
16. What can be done to enhance implementation of the CBC in public pre-primary schools?

THANK YOU FOR YOUR COOPERATION

Appendix VI: Observation Checklist


Date

CBC INDICATOR	IMPLEMENTED	NOT IMPLEMENTED	REMARKS
Learners working and Solving problems in groups (Communication and collaboration)			
Learners working through word questions to apply learnt knowledge (Critical thinking & problem solving)			
Learners engaging in creative activity and displays of learners' work (creativity & imagination)			
Key Inquiry questions that prompt learners' interest in knowing what next (learning to learn)			
Use of digital devices (Digital literacy)			
Infusing Citizenship in learning			
Enhancing self-efficacy among learners			
Link to value			
Link to Life skills			
Link to Pertinent and Contemporary issue			
Use of non-formal Activities to support learning through application			
Engaging learners in community service-learning activities			
Lesson plans with CBC aspects prepared by teachers			
Systematic Lesson presentation			
Use of assessment rubrics to assess learners' progress			
Assessment records kept by teachers			

Appendix VII: Document Analysis Guide

Document	Areas to be taken note of	Remarks
Schemes of work	If there is a detailed breakdown of the syllabus to be covered per year, term and weekly	
Lesson plans	If there is a detailed and systematic account of what to be covered in a lesson. The lesson plan should indicate the following;	
	<ul style="list-style-type: none"> • Strand 	
	<ul style="list-style-type: none"> • Sub-strand 	
	<ul style="list-style-type: none"> • Learning outcomes 	
	<ul style="list-style-type: none"> • Suggested learning experiences 	
	<ul style="list-style-type: none"> • Key inquiry questions 	
	<ul style="list-style-type: none"> • Core competence to be developed 	
	<ul style="list-style-type: none"> • Link to PCI 	
	<ul style="list-style-type: none"> • Life skills 	
	<ul style="list-style-type: none"> • Link to value 	
	<ul style="list-style-type: none"> • non-formal activity to support learning through application, 	
	<ul style="list-style-type: none"> • Suggested community service learning 	
	<ul style="list-style-type: none"> • Suggested assessment 	
Records of Work	Details of work taught by the teacher after each lesson on a daily basis.	
	Remarks reflecting the success or failure of the lessons and recommendations on the way forward.	
Assessment rubrics	Grading of learners in various learning areas. Should indicate if learners have exceeded expectation, met expectation, approaching expectation or below expectation.	
Progress books	Records of individuals learners' progress in each learning area	

Appendix VIII: Approval Letter from Graduate School


KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 57530

Website: www.ku.ac.ke

Internal Memo

FROM: Dean, Graduate School DATE: 15th September, 2020

TO: Ms. Harriet Isaboke REF: E83/25936/2018
C/o Early Childhood & Special Needs
Education Department.
Kenyatta University

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

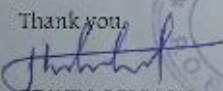
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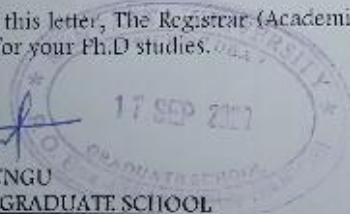
This is to inform you that Graduate School Board, at its meeting of 11th September, 2020, approved your Ph.D Research Proposal Entitled, "Relationship between Teacher Preparedness and Implementation of the Competency Based Curriculum in Pre-Primary Schools: A Case of Nairobi City County, Kenya".

You may now proceed with data collection, subject to clearance with the 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 form has been developed to replace the progress report forms. The supervision Tracking Forms are available at the University's website under Graduate School webpage downloads.

By a copy of this letter, The Registrar (Academic) is hereby requested to grant you substantive registration for your Ph.D studies.

Thank you,

EDWIN OBUNGU
FOR: DEAN, GRADUATE SCHOOL



c.c. Chairman, Department of Early Childhood & Special Needs Education
Registrar (Academic)

Supervisors:

1. Dr. Gladwell Wambiri
C/o Department of Early Childhood & Special Needs Education
Kenyatta University
2. Dr. Maureen Mweru
C/o Department of Early Childhood & Special Needs Education
Kenyatta University

12/2016

Y... ..

Appendix IX: Research Authorization Letter 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. 020-8704150

Our Ref: E83/25936/2018

DATE: 17th September, 2020

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

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR MS. HARRIET ISABOKE – REG. NO. E83/25936/2018

I write to introduce Ms. Harriet Isaboke who is a Postgraduate Student of this University. She is registered for Ph.D Degree programme in the Department of Early Childhood and Special Needs Education.

Ms. Isaboke intends to conduct research for Ph.D. Proposal entitled, "Relationship between Teacher Preparedness and Implementation of the Competency Based Curriculum in Pre-Primary Schools: A case of Nairobi City County, Kenya".

Any assistance given will be highly appreciated.

Yours faithfully,

A handwritten signature in blue ink, appearing to read "for Elishiba Kimani".


PROF. ELISHIBA KIMANI
FOR: DEAN, GRADUATE SCHOOL




20/09

Y:\01\01\01\2020\09\09


Appendix XI: Research Permit from NACOSTI


REPUBLIC OF KENYA


NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 720965 Date of Issue: 29/September/2020


RESEARCH LICENSE




This is to Certify that Miss. Harriet GESARE Isaboke of Kenyatta University, has been licensed to conduct research in Nairobi on the topic: Relationship between Teacher Preparedness and Implementation of the Competency Based Curriculum in Pre-primary Schools: A case of Nairobi City County, Kenya for the period ending : 29/September/2021.


License No: NACOSTI/P/20/6895

720965
Applicant Identification Number


Director General
NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY &
INNOVATION

Verification QR Code

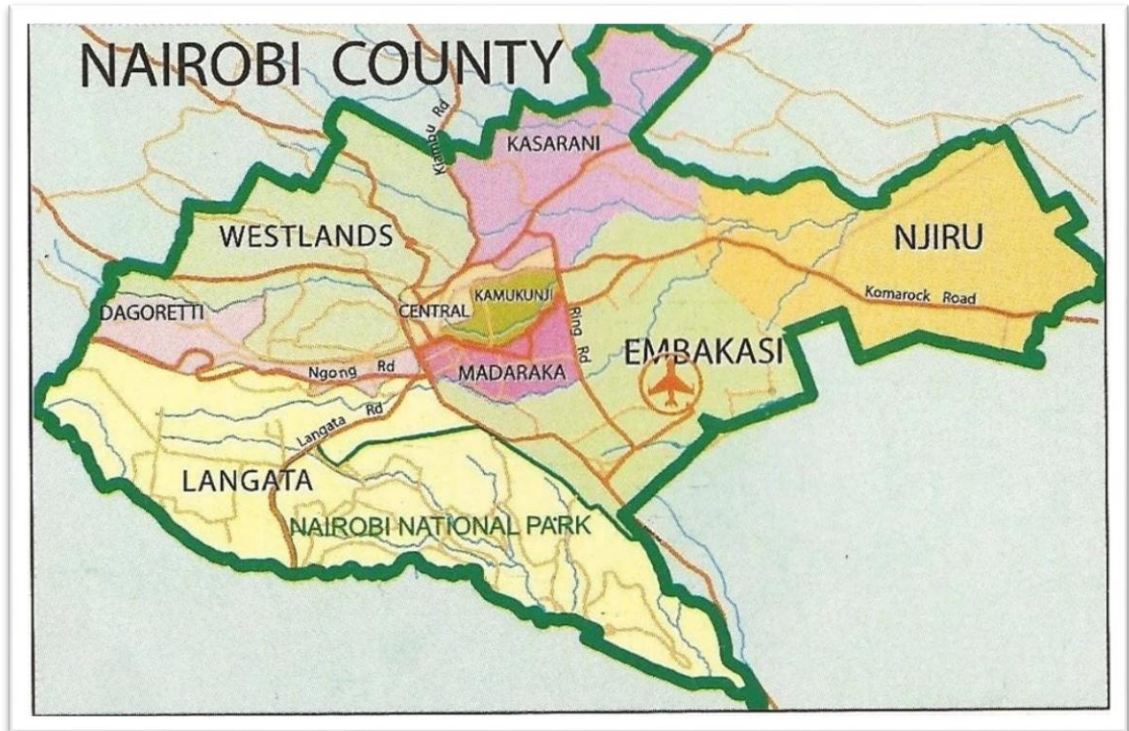



COUNTY COMMISSION
NAIROBI COUNTY
P.O. Box 30124-00100, NAIROBI
TEL: 341606

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Scan the QR Code using QR scanner application.

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Appendix XII: Map of Nairobi City County



Source: Nairobi City County (2019)