

**TEACHER RELATED FACTORS INFLUENCING IMPLEMENTATION
OF COMPETENCY BASED CURRICULUM AT LOWER PRIMARY IN
LUANDA SUB-COUNTY, VIHIGA COUNTY KENYA**

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the Award of the Degree of Master of Education in Curriculum Studies,**

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DECLARATION

This project report is my original work and has not been presented for any award in any university.

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DEDICATION

I dedicate this project to my sponsors, Keith and Angela Pound. I thank them for their financial support and constant encouragement throughout my studies. I also dedicate this piece of work to my beloved wife Judy; my children, Nick, Peter and Christine Angela who stood with me during my studies.

God bless them abundantly.

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ABSTRACT

Kenya is currently rolling out the competency-based curriculum at primary school level. The purpose of this study was to investigate teacher related factors that influence implementation of competency-based curriculum at the lower primary school level in Luanda sub-county, Vihiga County Kenya. Four objectives guided the study. They were: to determine how teachers' professional qualifications, pedagogical content knowledge, technological skills, and perceptions' influence implementation of CBC at the lower primary school level. The study used descriptive survey design. The study targeted 50 head teachers, 620 lower primary school teachers and 900 Grade 3 pupils. All the respondents were sampled using simple random sampling technique. A sample of 15 head teachers, 186 teachers and 90 pupils was selected for the study. Data were collected using questionnaires for teachers, interview guides for headteachers and focus group discussion guides for the pupils. Data were analyzed both quantitatively and qualitatively. The study findings showed that teachers and headteachers agreed that teachers' qualifications influence implementation of competency based curriculum (teachers: $M = 2.86$; headteachers: $M = 2.98$). Majority of the teachers (87.1%) rated themselves as having sufficient content knowledge to implement competency based curriculum and a similar percentage (87.1%) were of the opinion that content knowledge influences how teachers engage with learners, influences what they learn and how well teachers can use instructional materials; thereby curriculum implementation. Teachers (80.71%) were of the view that they were well equipped with pedagogical skills required to facilitate implementation of competency based curriculum and they could use different teaching and learning methods. Headteachers equally agreed and said that how teachers handle content inside of a classroom is key to implementation of competency-based curriculum. From the findings, only a small percentage of teachers (8.0%) said they had limited exposure to ICT tools and knowledge of using them. The teachers rated their perceived ICT knowledge and skill as moderate, $M = 3.18$; $SD = 1.14$. Overall, it was clear that teachers perceived ICT efficacy was low ($M = 2.98$; $SD = 1.63$). Most teachers were not using technology to deliver content most of the time ($M = 2.21$; $SD = 1.55$). However, an overwhelming majority (84.69%) was of the opinion that ICT influences implementation of competency based curriculum positively since the curriculum is digitally-based. The findings revealed that almost all (98.6%) of the teachers held positive perceptions towards implementation of the curriculum. It was concluded that teacher related factors influence implementation of competency-based curriculum. The researcher recommended that the Ministry of Education in conjunction with the Kenya Institute of Curriculum Development and Teachers Service Commission should continue training teachers on ICT knowledge and skills that are very critical to implementation of the new curriculum.

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ABBREVIATIONS AND ACRONYMS

CBC	Competency-Based Curriculum
CBE	Competency-Based Education
CBET	Competency-Based Education and Training
CFBT	Centre For British Teachers
ICT	Information Communication and Technology
IBE-UNESCO	International Bureau of Education-United Nations Education Scientific and Cultural Organization
KNUT	Kenya National Union of Teachers
KICD	Kenya Institute of Curriculum Development
MOEST	Ministry of Education Science and Technology
SABERI	System Assessment for Better Education Result Initiative
SPSS	Statistical Package for Social Science

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The desire to widen global and regional competition in the job market called for the introduction of the Competency Based Curriculum (CBC) in Kenya. The main purpose of CBC is to produce graduates with skills that meet the demand and shortage of labour in the world and Kenya's job market in the 21st Century. This was as a result of the Professor Douglas Odhiambo's task force report by the Ministry of Education Science and Technology that led to the introduction of CBC in the country (Republic of Kenya 2016). A report on needs assessment on curriculum reforms by Kenya Institute of Curriculum Development [KICD] (2009) observed the necessity for a curriculum that integrates and equip individual learners with skills and competencies that are relevant and applicable to really life situations.

Therefore, KICD recommended that for effective curriculum delivery and provision of quality education, provision of learning resources and teacher training in all aspects either through pre-service or in service is fundamental. Several world countries have already shifted to CBC. In 2009, Mexico shifted from the old education system to CBC. Rwanda introduced CBC in the country in 2015 to effectively prepare its generation for the 21st Century. Ongondieck (2005) confirms that Tanzania adopted the CBC system to curb the challenges that were

facing the preparation of graduates in training institutions in the country. Republic of Kenya (2016) argues that CBC is an essential educational approach that seeks to develop learners holistically for tomorrow's future. Mosh (2012) defines CBC as that which has specific outcome statements that outline the competencies to be developed or attained by learners'. Nikolov, Sholkova and Kovatcheva, (2014), aver that Competency is the ability to use or apply skills, knowledge and personal abilities to various studies or work situations. With the high number of unemployed youths in Kenya, there was need that education and training in the country be aligned to meet the needs and aspirations of the citizens to curb this problem. For teachers to be fully trained and adequately prepared for CBC implementation in the country, several teachers related factors ought to be first addressed.

A report by Haki Elimu in Rweyemamu (2012), explains that teachers have not fully understood CBC and in reality they do not know how it works. The KICD (2009) report, states that competencies such as self-efficiency, citizenship, creativity and imagination, critical thinking and problem solving, communication and collaboration, learning to learn, and digital literacy need to be developed in learners. The new competency-based curriculum was piloted in Kenya for the first time in January 2017. The roll out nationwide followed in 2018 at the lower primary school level from Grade 1 to 3. The main objective is to ensure that every Kenyan child is ethical, empowered and engaged (KICD, 2009).

Abuya (2017) avers that for CBC to be effectively delivered and implemented, professional and knowledgeable facilitator are required. Sudsomboon (2010) points out that successful realization of a competency-based curriculum relies heavily on the instructors, who take up the new role of coaching and facilitation rather than being transmitters of knowledge. Therefore, teachers' preparedness for the implementation of CBC curriculum is very crucial. Reverses (2004), points out that the quality and significance of the teacher cannot be compared to any other variable.

Darling-Hammond (2009) argues that the achievement of learners is directly proportional to the teacher's preparedness and the quality of the teachers. Teachers' quality and learners' achievements are correlated than any other types of investments like teachers' salaries and abridged numbers of learners per classroom. Buchmann (1984) argues that the subject matter knowledge of a teacher contributes greatly to what pupils learn. Adequate subject matter knowledge assists teachers in asking productive questions, giving relevant explanations and assessing pupils' learning. Jadama (2014) confirms that how much the teacher knows and understands the subject matter, defines how well teachers can teach the curriculum content to the learners. World countries including Kenya are emphasizing on the integration of Information Communication Technology (ICT) into school curriculum at all levels of learning including the lower primary in all aspects in teaching and learning. The need to develop teachers' abilities,

competencies and readiness to use and apply technology in the teaching-learning process has also been highlighted. A study by Makunja (2016) on the implementing of the competency-based curriculum in Tanzania found out that lack of adequate in-service training for teachers was an indication of limited teacher preparedness in the use and application of pedagogical knowledge during teaching and learning process as they lacked enough knowledge and understanding of the competency-based curriculum concepts. Lil, Chao and Churchill (2011), confirm that teachers as instructors are expected to create a technology-based environment to use technology to facilitate the teaching and learning process. Bonanno (2011) argues that the implementers who are the teachers lack sufficient knowledge and skills to maximally exploit, use, and integrate technology to support curriculum implementation. Zindi and Rugaraganda (2011) state that currently, technology opens many opportunities meant for improving teaching and learning in the classroom. Therefore, lower primary school learners need to be adequately prepared and equipped with technological skills and competencies for them to successfully adopt these changes.

Teacher perception is critical for any successful and effective curriculum implementation. Curriculum implementation process involves changing the attitude of teacher trainers, supervisors, teachers, learners, parents, policymakers and administrators. Gakuu (2006) highlights that teachers' attitude is critical in the process of curriculum implementation and therefore teachers should be well

prepared to have a positive attitude for them to implement the new curriculum effectively.

In Kenya, education stakeholders have raised a question on the capacity and teacher preparedness for successful implementation of CBC. Already the implementation of CBC in its first phase is facing several challenges thus hindering the process. A study by Kaviti (2018) revealed that CBC was hastily crafted and rushed through a shallow piloting in 2017 that lasted an average of ten weeks. Only 2,000 out of 160, 000 teachers imparting basic education in lower primary school level were trained. According to a study by the Kenya National Union of teachers (2018), a number of teacher related factors still pose questions. The report claims that teachers do not understand the new education system; something that complicates the successful implementation of CBC at the lower primary school level in the country. Several teachers, according to the study, are experiencing problems related to translating of the new content to the learners due to lack of adequate training. There is lack of clear evidence on whether teachers have been adequately prepared for the implementation of CBC at the lower primary school level in the country. Therefore, the researcher sets out to evaluate the influence of teacher-related factors on the implementation of CBC at the lower primary school level in Luanda Sub-county, Vihiga County Kenya.

1.2 Statement of the Problem

According to a study by KNUT (2018), teachers in Kenya do not understand CBC and this may complicate its successful implementation in schools. The report further points out that teachers experience problems on how to translate the content to learners due to the shallow training done. Though the government through Teachers Service Commission and KICD has trained a few teachers on the new system of education, there is still a lot to be desired. The few teachers trained lack proper pedagogical content knowledge, ICT skills and adequate knowledge on how to use the teaching materials available. The schools' environment lacks appropriate physical facilities while teachers have no crucial support of key education stakeholders. There is little evidence that a study has been conducted to establish the level of teachers' preparedness to implement CBC. This is why the research is setting out to investigate influence of teacher related factors on the implementation of CBC at the lower primary school level in Luanda Sub - county, Vihiga County Kenya.

1.3 Purpose of the Study

The purpose of the study was to investigate the influence of teacher related factors on implementation of CBC curriculum at the lower primary school level in Luanda sub-county, Vihiga County Kenya.

1.4 Objectives of the Study

The study was guided by the following objectives:

- i. To establish the influence of teachers' professional qualifications on implementation of the competency-based curriculum at the lower primary school level in Luanda Sub-County.
- ii. To establish the influence of teachers' pedagogical content knowledge on implementation of the competency-based curriculum at lower primary school level in Luanda Sub-County.
- iii. To assess the influence of teachers' technological skills on implementation of the competency-based curriculum at the lower primary school level in Luanda sub-county.
- iv. To establish the influence of teachers' perceptions on implementation of the competency-based curriculum at the lower primary school level in Luanda sub-county.

1.5 Research Questions

The study was guided by the following research questions:

- i. To what extent do teachers' professional qualifications influence implementation of competency-based curriculum at the lower primary level at public primary schools in Luanda Sub-County?

- ii. To what extent do the teachers' pedagogical content knowledge influence the implementation of competency-based curriculum at the lower primary school level in Luanda Sub-County?
- iii. How do teachers' technological skills influence the implementation of competency-based curriculum at lower primary school level in Luanda Sub-County?
- iv. How do teachers' perceptions influence the implementation of the competency-based curriculum at the lower primary school level in Luanda Sub-County?

1.6 Significance of the Study

The findings of this study may provide important information towards the improvement of the ongoing CBC implementation strategy in the country. They may help to guide curriculum developers at KICD in making informed decisions in their management of CBC implementation at the lower primary school level in the country. Major education stakeholders such as education officers at the sub-county and national level may use the findings of the study to monitor and evaluate the CBC implementation process at the lower primary school level across the country. The data generated from this study may benefit other education interested parties like the faith based organizations and donors that operate and support educational programs in Luanda Sub-County. The study may also guide

the curriculum developers on the gaps within the CBC implementation that is currently being rolled out in middle upper school at Grade Four in Kenya. It will play a key role in areas such as decision-making and CBC implementation management in the country.

1.7 Limitations of the Study

The teachers most likely to withheld crucial information for fear of exposing their professional qualifications in relation to their preparedness for the implementation of the competency-based curriculum. However, the researcher mitigated this by explaining to the respondents the purpose of the study and assuring them that their identities would not be disclosed.

1.8 Delimitations of the Study

The study was confined to the lower primary school level within Luanda sub-county. The study was restricted to lower primary school level only where CBC has been implemented fully. The study mainly focused on four aspects on teacher factors thus the influence of teacher professional qualifications, teacher pedagogical knowledge, teacher technological skills, and teacher perceptions. Though there are numerous and indeed crucial factors affecting CBC implementation in the country, the reason for carrying out this study was to identify the gaps that will in future need to be corrected to enable successful CBC

implementation in the country. The respondents were head teachers, parents, lower primary school teachers, and Grade 3 pupils to determine teacher factors that influence implementation of CBC implementation. The targeted respondents are directly involved with the implantation of the new curriculum.

1.9 Assumptions of the Study

The study was conducted under the following assumptions:

1. That the teacher factors investigated in the study would continue to be significant to the implementation of the CBC.
2. That the respondents gave appropriate responses.
3. That the factors will continue to be significant to implementation of the CBC.

1.10 Definition of Significant Terms

The following terms and concepts had the following meanings in this study:

Competence refers to application of knowledge, skills, and attitude in different situations.

Competency-based curriculum refers to a curriculum that encompasses the application of skills as opposed to subject content and rote memorization.

Implementation refers to the processes and practices of putting the CBC plan into execution.

Perception of teachers refers to teachers' understandings, opinions, feelings and interpretations of competency -based curriculum.

Preparedness of teachers refers to individual teacher's collective knowledge, skills, attitudes, perceptions and ability to support the implementation of the competency-based curriculum.

Lower primary school level refers to learners in grades that range between pre-primary and middle upper primary school.

Middle school level refers to classes between Standard (grades) 4 and 6

Subject content knowledge of teachers refers to teachers' mastery of subject knowledge on the competency-based curriculum.

Technological knowledge of teachers refers to teachers' skills in the use of technological devices like computers, phones, and projectors to implement the competency-based curriculum.

Teacher related factor refers to factors such as teachers age, gender, workload and even qualifications.

Teacher professional qualification refers to the measure of ability, knowledge and skills of teacher such as certificate, diploma, degree, masters and PHD status.

1.11 Organization of the Study

The project report is organized into five chapters. Chapter one covers the background to the study, statement of the problem, purpose of the study,

objectives of the study, research questions, significance of the study, basic assumptions of the study, definition of significant terms and organization of the study. Chapter two focuses on literature review with information on teachers' teachers' professional qualifications, teachers' pedagogical knowledge, teachers' technological skills and teachers' perception on CBC implementation at lower primary school level in Luanda Sub -county, Vihiga County Kenya. Chapter three covers research methodology on research design, the target population, sample size and sampling procedures, research instruments, instruments validity and reliability, data collection procedures, methods of data collection, data analysis techniques and ethical considerations. Chapter four focuses on data presentation, interpretation and discussion of the study findings. Chapter five comprises the study summary, recommendations and suggestions for further research.

CHAPTER TWO

RELATED LITERATURE REVIEW

2.1 Introduction

This chapter contains literature related to teacher factors that influence implementation of competency-based curriculum. The literature is discussed under various sub-themes including teachers' professional qualifications, teachers' pedagogical content knowledge, teachers' technological knowledge and skills, and teachers' perceptions on the implementation of the new competency-based curriculum. A summary of literature review, theoretical and conceptual frameworks are included in this chapter.

2.2 Concept of Implementation of Competency-Based Curriculum

According to Okello and Kguire (1996), curriculum implementation is a network of varying activities and changing people's attitudes to accept and participate in those activities. Competency Based Curriculum is perceived to be the solution towards issues related to social, political and economic demands facing Kenya as a state. Mukamenza (2017), Points out CBC that is being implemented in the country is borrowed from developed countries and that the underdeveloped and developing countries are facing challenges in adopting it. According to IBE-UNESCO, global Centre of excellence in curriculum and related matters, CBC refers to styles of instructions, assessments, grading and academic reporting that

are based on students demonstrating that they have learned knowledge and skills which they are expected to learn as they progress through their education levels. Jallow (2011), states that the competency-based curriculum aims at changing learners to be able to gain the ability to perform tasks and to learn how to know. Wangeja (2010) adds that CBC is about knowledge construction and not transmission and that advance knowledge affects the learning process.

Competency-based curriculum is a shift from the past education systems and its main focus is knowledge development (Young, 2009). A reform in curriculum is hard to plan and slows the process of any intended implementation. It, therefore calls for the need to alter the learning, teaching styles of approach from remote memorization to those approaches that aim at supporting the development of competencies and skills, which may be applied in life problem solving (World Bank, 2011). According to Wolfson (1977), curriculum is what teachers and learners create together and in any curriculum implementation, the teacher must play a more significant role in designing the curriculum. The Investigations into teacher-related factors and implementation of CBC will be a step in finding out whether the new education system is effective in Kenya. The CBC is supposed to be rolled out the primary school level but in phases as at the moment. First phase was in at the lower primary school level. Second implementation is going at the middle level while the third phase will be at the junior secondary school level after Grade 6.

During the CBC implementation stages, it is expected that the teachers will be able to apply the right pedagogical methodologies, understand the pedagogical content, involve the learners fully like in the use of the teaching learning resources available, apply and use ICT in the teaching and learning process effectively. The learners and parents being the main stakeholders will fully appreciate and embrace the system. The learners will be able to demonstrate during and after CBC implementation the understanding of the seven competencies thus communication and collaboration, imagination and creativity, citizenship, learning to learn, self-efficacy and digital literacy in their life experience.

2.3 Teachers' Professional Qualifications and Implementation of the CBC

Teacher qualification is a pre-requisite for meeting the objectives of any school curriculum. Research shows that qualifications of teachers have profound influence on how well teachers implement a curriculum in an educational activity. The Education and Training Commission of Europe (2010) posited that teacher qualification is an essential factor that provides learners with personal fulfillment, better social skills, and more diverse employment opportunities. Teacher qualifications can be looked at in two ways; academic and professional qualifications. They relate to the acquisition of relevant knowledge, skills, and competencies and creativity needed for quality productive engagement in the teaching profession. According to Darling – Hammond (2007), a well qualified

teacher is one who is fully certified and holds an equivalent of a major in the field being taught. He observed that certification measures teacher qualifications; and, that the certification process combines aspects of knowledge on a subject matter taught and aspects of knowledge learnt. Darling-Hammond further observed that a teacher's academic qualification matters when it comes to effective teaching..Clarke (2003) says that academic qualification of teachers influences the quality of instructional delivery; and professional qualifications are proxy for quality teaching and higher learner performance. However, Luschei and Carnoy (2010) reported in a study that a teacher's post-graduate education does not significantly influence English learners performance.

Dovrat Committee (2005) report states that teachers' certification status and degree in area of specialization are very significant and positively correlate with students learning outcomes. Qualified teachers, therefore, are those who are trained and equipped to respond to growing, changing societal challenges. They should be able to inculcate in the learners knowledge and skills needed for active, productive, lifelong career opportunities.. Equally important is the kind and quality of pre-service and in-service exposure a teacher experience.

Clarke (2003) says that qualifications of teachers; academic and professional, are key for any government to influence quality of instructional delivery. Qualifications of teachers are proxy for quality teaching and higher learning performance. According to Teachers Service Commission (TSC) Report of 2007,

there is minimum y qualifications for teachers in any level of teaching that make them employable. The National Assessment Centre [NAC] (2010) report on monitoring learner performance says majority of Kenyan Primary school teachers are holders of Primary One (P1) professional certificates. Njeru and Orodho (2003); Asikhia (2010); Yala and Wanjohi (2011) all agree that teachers' experience and qualifications significantly influence students' performance: this reinforces the belief that the quality of education is equal to the quality of teachers who implement the education system.

Several teacher-related factors like low academic and professional qualifications, lack of in-service training, low motivation and negative attitudes towards the said curriculum hinder any curriculum implementation process. Teachers in Kenya primary schools being crucial curriculum implementers are still faced with a lot of challenges that hinder the successful implementation of CBC. Gatlin (2009) observes that teachers must be adequately prepared to develop complex evolutionary and responsive approaches considering curriculum changes. CBC implementation demands that teachers should be knowledgeable and skilled to opens ways or avenues towards the transfer of teaching, learning result-oriented outcomes that help to advance an individual's professional development and integration of holistic social integration.

Teachers who are not well grounded in the subjects they teach cannot implement a curriculum effectively, no matter how carefully a curriculum has been marked out, how detailed and scientifically accurate the textbooks, worksheets, equipment and operating instructions are and how adequate the facilities are (Akpan, 2012). Adedayo (2012) examined the effects of teachers' qualification on the performance of senior secondary school students in physics and found that students taught by teachers with higher qualifications performed better than those taught by teachers with lower qualifications. A study conducted in Nigeria by The National Teachers Institute (NTI) identified reported that one major problem for the declining academic standards was low teacher qualifications. According to the NTI report, about 54 percent of teachers in the country were under-qualified.

In a research conducted by Penuel, Fisherman, Yamaguichi & Gallagher (2007), it came out that the educational attainment of teachers affects their class performance. By extension, professional and academic qualifications of teachers influence their classroom competence. Penuel et al. found that teachers with professional qualifications tended to associate and commit themselves more to curriculum implementation requirements.. Penuel, et al. (2007) noted that issues of professionalism and non-professionalism were closely linked to teacher qualification. Professional and non-professional teachers respond to curriculum implementation in diverse ways. Ipaye (2002) and Penuel, et al. (2007) contended that teacher qualification affects curriculum implementation.

Teacher experience is related to increased awareness of diversifying search for new ideas, new commitments and new challenges. Teachers' experience and knowledge of subject matter are unique qualities for curriculum implementation. Rice (2010) posits that the magnitude of the effect of teacher experience varies according to level of education. He further opined that experience gained over time enhances the knowledge, skills, and productivity of workers. Okey (2012) stated that experience is directly related to teachers' ability to plan lessons, address divergent student responses, reflects on their teaching effectiveness and their ability to stimulate student inquiry. Akinyele (2001) and Commey-Ras (2003) commented that experience improves teaching skills. Senechal (2010) also found that teacher experiences have significant positive effects on students academic achievement. More than half of the gains are realised during a teacher's first few years of practice, but substantial gains occur over subsequent years; albeit, at a slower rate. Furthermore, teachers with long years of experience are confident that even the most difficult student, with a little more effort, can be reached. On the other hand, teachers with little experience feel helplessness when faced with demotivated learners (Gibson & Dembo, 1987).

Several studies have demonstrated that teacher experience has a more positive relationship with quality curriculum implementation. However, according to Hanushek (2003, these findings are not conclusive. While a majority of the studies finds a positive effect, only a minority of all estimates provides statistically

significant results. Hanushek also pursued a nonparametric investigation of experience and found that experience effects are concentrated in the first few years of teaching. On the same line, Domike (2002) outlined phase of experiences in the teaching career. He opined that experiences in the teaching profession have to do with factors such as exploration, stabilization, experimentation and diversification. These phases include:

Phase 1: The career exploration phase (1 -5 years)

This is a period of survival, discovery and enthusiasm. Teachers take up responsibilities during this phase with uncertainties and complexities of the environment. At the fourth year of the teacher's profession, stability plays a great role to characterize the teacher's response to commitment. With unattractive incentives, the teacher is interested in enhancing his educational attainment for greener pastures. Pedagogical mastery is identified and pursued with vigour and greater flexibility applied. Between 1-10 years, beginning teachers were found to have pitfalls in their application of instructional methods and in group dynamics.

Phase 2: Mid- career years (15-25 years)

At this stage, teachers draw a balance sheet of their career lives and examine the possibility or unlikelihood of changing careers. Teachers are more critical, direct and dominance prevails.

Phase 3: 26-33

After serving for many years, some teachers achieve serenity and greater confidence to invest in teaching. Maduabum (2007) posited that newer teachers may be excited about new discoveries, but teachers with more experience can distinguish valuable ideas from passing facts; though, there may be exceptions. Experience brings humility, good judgment and ability to see the complete picture.

Experience and immersion in the subject affect teaching in diverse ways. It grows knowledge repertoire, improves utilization of more materials and ideas in profound ways. Experienced teachers are good assets to novice teachers who need encouragement, advice and guidance. According to Andrea (2010), countries that support teachers' in-service training towards the ongoing professional development or preparedness involve teachers in such important curriculum schools. Moshi (2012) revealed that teachers had not been in-serviced adequately on CBC implementation but the education officers alleged that sufficient teacher training had been done towards the process. Lack of continuous professional development hinders successful curriculum implementation since teachers cannot effectively use of materials prepared for implementation of a new curricular.. Therefore, to ensure proper and successful CBC implementation at the lower primary school level, teachers need proper training and induction on the new curriculum.

2.4 Teachers Pedagogical Content Knowledge and Implementation of CBC

Competency has to do with knowledge, skills, and attitudes. Teachers' knowledge base consists of three components: content knowledge, pedagogical knowledge, and pedagogical content knowledge (Etkina, 2005). Content knowledge is knowledge of the discipline itself, and includes such things as procedural methods.. Pedagogical knowledge represents a 'generic why and how to' of teaching. Lastly, pedagogical content knowledge represents a situation-specific overlap of content knowledge and pedagogical knowledge. It deals with the "specific why and how to" of teaching a given discipline. Pedagogical content knowledge is complex, and results from many years of classroom experience. It can be described as 'knowledge in context'. According to Shulman (1986), pedagogical content knowledge includes knowledge of student difficulties and prior conceptions in the domain, knowledge of domain representations and instructional strategies, and domain-specific assessment methods.

Content knowledge is knowledge of content related to a unique field that includes substantive and syntactic components. Tamir (1988) explains that the substantive component covers the knowledge of rules, facts, principles, concepts and theories in a specific field of science; and the syntactic component compasses knowledge of the process through which knowledge is generated in the field.

For teachers to implement curricular effectively, they need to possess a subject matter component of teacher professionalism and knowledge. According to Blomek and Delaney (2012), studies have emphasized on the importance of knowledge and skills that teachers have when it comes to the teaching learning process. Komba and Mwandangi (2015) observed that a good number of teachers were not informal and conversant with the subject matter content while the rest had not fully understood the meaning of CBC. Some of the teachers did not know the objectives of the competency-based curriculum. The findings from Paulo (2004) points out that understanding of the subject matter of a discipline helps a teacher to prepare well on different teaching methodologies. Understanding entails an awareness of one's intelligence and application of different skills, ideas, and knowledge to solve problems in real situations. He adds that teacher's scope of knowledge of subject matter should be deep and more than the curriculum they teach.

Study findings from Baumert, Kunter and Voss (2010), revealed that content knowledge of the teacher has an impact on the child's learning. The teachers' subject content knowledge affects how they deliver their content during classroom instructions and the learners' achievement. Following these crucial revelations on the importance of teacher subject matter knowledge towards successful curriculum implementation, it is evidenced that lower primary school level teachers require

adequate in-service training to prepare them in readiness to implement CBC in schools.

Beyond the relevance of strong content knowledge, several authors have argued that teachers also require a solid foundation in pedagogical content knowledge: that is, a type of professional knowledge that is used to teach the content of a particular branch of knowledge (Wilson; Floden; Ferrini-Mundy, 2002). The content knowledge (CK) and pedagogical content knowledge (PCK) are strongly related but distinct entities (Turnuklu; Yesildere, 2007; Buschang, 2008). According to Ball, Lubienski, and Mewborn (2001), the development and selection of tasks, the election of representations and explanations, the facilitation of productive classroom discussions, the interpretation of student responses, the emphasis on student comprehension and the quick and appropriate analysis of student mistakes and difficulties are all underlying elements of pedagogical knowledge.

2.5 Teachers Technological Knowledge and Skills and Implementation of CBC

Information and Communication Technologies (ICT) have produced rapid changes in society by fundamentally transforming the way people communicate, have access to information and entertainment, and doing business, administration, research among other things. In addition, ICTs are

perceived to be inherent to the educational reform efforts necessary for the 21st century society, since they have changed the key aspects of the nature of knowledge and the way we access it. The tremendous development and diffusion of new generation (Web 2.0) technologies is expected to exert a significant impact on instruction and learning by (Dede, 2008; McLoughlin & Lee, 2010).

Japan report (January, 2014), worldwide research has shown that ICT can lead to improved student learning and better teaching methods. Information Communication and Technology remains very vital with its demand in the world education sector. There is an increase demand in the use of ICT in learning institutions towards the delivering and teaching of skills need for the 21st Century. Buabeng-Andoh (2012), the use of ICT in education adds value in the teaching-learning process. It enhances the effectiveness of learning through the addition of dimensions that were not previously available. At the classroom level, ICT acts as a motivational factor to learning by enabling learners and teachers through supporting engagements with collaborative learning. For the necessary curriculum changes to be effected, the adoption of ICT is very crucial in facilitating the teaching and learning process and making it more productive [Tomei (2005)]. Teachers need the teaching and technical skills that will help them effectively and efficiently adapt and integrate ICT into the school curriculum (Awidi & Aldha Feeri 2017).

Chan (2014), points out that teacher' readiness and willingness are of essence for successful adoption and implementation of ICT into the teaching learning process and curriculum. Hennesy el al. (2010), the main obstacle in the implementation of ICT was due to low levels of teacher education relating to knowledge and skills in ICT. The study further states that fear, lack of confidence and competency among teachers hinder ICT use in learning institutions. A report on CBC curriculum by KICD (2018) on teachers trained on ICT integration indicates that 61 percent of teachers are not trained on ICT. Teachers should be equipped with ICT skills since digital literacy is one of the core competencies of competency-based curriculum.

2.6 Teacher Perceptions and Implementation of CBC

According to the Oxford Advanced Learner's Dictionary, perception is the ability to see, hear, or become aware of something through the sense. It also refers to the way something is interpreted, regarded or understood. KNUT (2018), confirms that there is evidence that teachers are unprepared to implement CBC in the country. Most teachers are of the opinion that the CBC process was hurriedly undertaken. A good number of teachers do not have sufficient training on CBC knowledge content and teaching methodologies. Lack of availability and adequacy teaching learning materials as well as the challenges faced by head teachers and teaching staffs remain a big challenge in implementing CBC. Teachers are very

influential stakeholders in determining the degree to which schools implement curriculum policies (Porter 2015).Kiniuka (2012), points that curriculum reforms that incorporate teachers in the decision-making process revealed the necessity for increased teacher capacity and readiness for effective curriculum reforms to take place therefore led to learner's achievement. According to Egan and Sahak (2011), teachers' perceptions and attitudes are fundamental for effective teaching and they influence learners' performance.

2.7 Summary of Literature Review

The study investigated teacher related factors influencing the implementation of CBC at the lower primary school level in Luanda sub-county. The literature focused on such themes as teachers' professional qualifications, pedagogical content knowledge, use of technological skills, and teachers' perceptions on the implementation of CBC curriculum. Previous studies carried out by Komba and Mwandaji (2016), focused on the shift from content and teacher-centered curriculum to the competency-based curriculum on improving the quality of education. A study by Sudsomboom (2010), pointed out that successful realization of CBC relies heavily on the teachers' preparedness. These finding are aligned with a survey carried out by CFBT (2012) which agreed that quality education depends largely upon the quality of the teachers.

2.8 Theoretical Framework

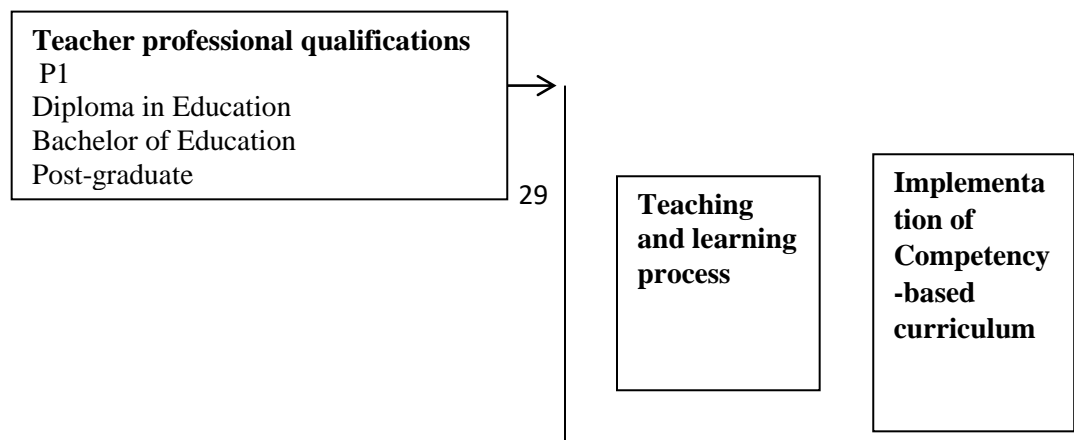
The study is based on curriculum implementation theory by Gross (1971). The theory states that for successful implementation of any educational programme factors such as teacher competency, clarity, awareness of the implementers, the capacity of implementers, support from the management and attitude of the teachers, learners and stakeholders must be considered. Gross (1971) further states that the teacher who is the implementer should be competent, be aware of the content, and of all that is to be implemented. Gross argues that when implementers are not informed on the intended changes of the curriculum, they may not effectively and sufficiently implement the curriculum. Baumert (2010) argues that the content knowledge of the teacher has an impact on the child's learning and affects how teachers deliver their content during classroom instructions.

This study is well anchored on the Gross implementation theory of 1971, which states that for any implementation program to succeed, it must be based on; teacher ability, management of the support facilities, and the clarity of the implementers. Adapting this theory, teachers' preparedness for effective CBC implementation requires trained teachers with content knowledge of the curriculum. According to Gross (1971) capacity of the implementer is significant for effective curriculum implementation. In-servicing teachers are vital for equipping them with skills and knowledge that is necessary for handling a new curriculum. The lower primary school teachers should be trained on CBC

implementation through seminars and workshops to acquire skills, knowledge, and behaviors for effective implementation of the curriculum. Hawes (1979) agrees with Gross (1971), on the need for changing teachers' attitudes for effective curriculum implementation.

2.9 Conceptual Framework

A conceptual framework demonstrates the link between the independent and dependent variables. Figure 2.1 demonstrates the interplay of the independent and dependent variables in the study.



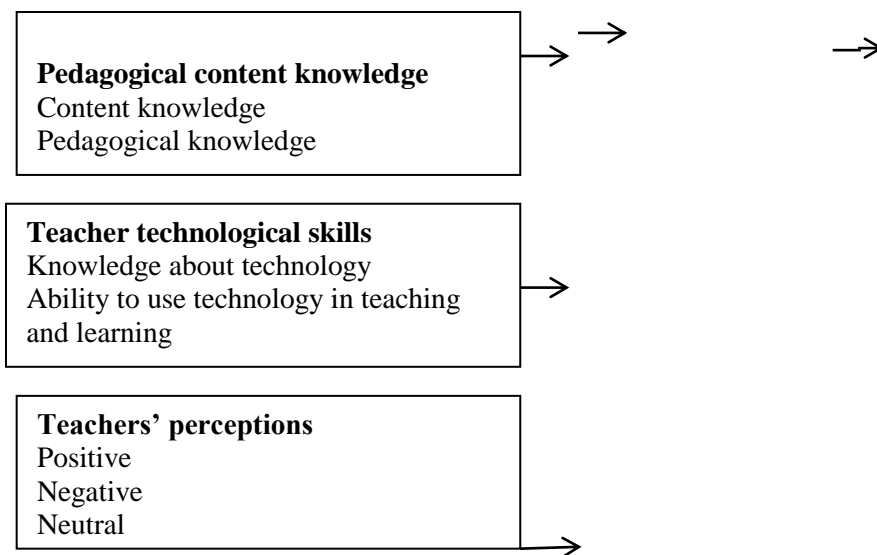


Figure 2:1 Interrelatedness of teachers-related factors and implementation of competency-based curriculum

Figure 2.1 shows the interaction of the study variables; independent, process and dependent variables. In the study, the independent variables; teachers' professional qualifications, teachers' pedagogical content knowledge, teachers' technological knowledge and teachers' attitudes constitute the input variables. They are significant in that acting on and operating through the teaching and learning process (process), they influence the dependent variable; implementation of CBC curriculum (output variable). A teacher, who possesses adequate professional qualifications, is equipped with pedagogical knowledge, has requisite technological knowledge and skills, and possesses positive attitudes towards CBC is

likely to implement the CBC curriculum effectively, On the reverse, a teacher who lacks sufficient qualities of the same variables is likely to be unsuccessful in the implementation of the CBC curriculum.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter covers the research design, target population, sample size and sampling procedure. This chapter further explains about research instruments, their validity and reliability, data collection procedures, data analysis, and ethical considerations.

3.2 Research Design

According to Kothari and Garg (2014), a research design is the set of conditions for data collection and analysis. It is the conceptual structure within which research is conducted. For this research, the researcher used descriptive survey research design. Kombo and Orodho (2002), state that a descriptive survey research design method is used to gather data about attitudes, opinions, and habits of people on any educational issues by administration of questionnaires to a sample of individuals. A descriptive survey design was adopted in this study because it is suitable in the primary data collection about the teachers' professional qualifications, teachers' pedagogical knowledge, teacher technological knowledge and teachers' attitudes. The design provided an opportunity in making descriptive assertions about a large population (Mills, Gay & Airman, 2006). The researcher used questionnaires to facilitate data collection process.

3.3 Target Population

Target population is the population to be studied. This study targeted 15 primary schools, 50 headteachers, 620 teachers and 4,560 lower primary school pupils in Luanda sub-county (Luanda Sub-County Education Office, 2020).

3.4 Sample Size and Sampling Procedures

According to Orodho (2002), sample sizes are small groups obtained from the assembled population. Sampling involves making conclusions about an entire population using a subset of the population. Simple random sampling method was used to select a sample size of 30 percent of the target population. According to Mugenda and Mugenda (2003), a sample size of 10 percent to 30 percent is adequate for a descriptive survey. Therefore, in sampling the schools, head teachers, teachers and pupils, the researcher considered 30 percent of the target population because the population was not very large. Fifteen schools, 15 head teachers, and 186 teachers. The researcher sampled 90 pupils to participate in group discussions. This was a 10 percent of the target population. The sampling design is as shown in Table 3.1.

Table 3.1: Sample framework

Target population	Population size	Sample size	Percent
Public primary schools	50	15	30.0
Head teachers	50	15	30.0
Teachers teaching at lower primary	620	186	30.0
Grade 3 pupils	900	90	10.0

Table 3.1 indicates that the sample was 306 respondents. Simple random sampling method was used to select all the study participants. In every school, the researcher selected 12 teachers teaching at lower school including the pre-school that are now part of the primary schools. The headteachers from each sampled school participated in the study. From every school, six Grade 3 pupils were randomly selected to participate in the focus group discussion.

3.5 Research Instruments

The researcher designed three different questionnaires that were administered to different respondents during the field study. The questionnaire consisted of both open and close-ended items. Chandran (2004) states that open ended questionnaires are suitable in research as a good measurement tool because they can be used to effectively examine the relationship between two or more variables.

The questionnaires were administered to head teachers, teachers at lower primary school and to Grade 3 pupils where CBC implementation has fully taken place.

The teachers' questionnaires collected information related to all the variables of the study as informed by the research questions and the conceptual framework. Each set of questionnaires was divided into five sections. Section A comprised of demographic information, section B obtained information on teacher professional qualifications and Section C sought information on teachers' pedagogical knowledge. Section D was used to obtain information on technological skills and the final section, E, gathered data on teachers' attitudes towards implementation of the CBC curriculum.

Headteachers responded to a key informant interview. Section one of the interview guide gathered demographic information of the principals and school information. The second section probed on information on issues and challenges on implementation of CBC. Pertinent issues on teacher factors that influence CBC implementation were solicited. The semi-structured nature of the instrument guided the researcher on the core concepts to ask about and at the same time gave freedom to move the conversation in a direction of interest whenever an opportunity presented itself during the discussion.

The researcher also developed Focus Group Discussion Guide (FGD) items through discussions with the supervisors on important themes related to the study, existing related literature and the conceptual and theoretical frameworks of the

study. The FGD guide solicited collective views from the pupils. The Grade 3 pupils responded on issues such as teaching methodologies used by their teachers, how they understand the concepts during class lessons and about homework.

3.6 Validity of the Research Instruments

Validity is defined as the extent to which a research instrument measures what it was intended to measure (Leedy & Omrod, 2010). A panel of experts helped in determining the validity of a data collection instruments (Leedy & Omrod, 2010). In addition, the instruments was subjected to pilot-testing. Therefore, the researcher pre-tested the instruments using three public primary schools in Luanda sub-county before collecting data from the field. A 10 percent of the study sample was considered adequate for pilot testing the instruments (Mugenda & Mugenda, 2003). The schools were selected randomly and the respondents from the three schools were not included in the final sample. The sample size of the pilot study was 29 respondents; 2 head teachers, 18 lower primary school level teachers, and 9 Grade 3 pupils from 2 primary schools. After piloting, the instruments were examined for clarity, relevance, and suitability of the study purpose.

3.7 Reliability of the Research Instruments

Reliability refers to the extent to which an instrument measures a variable precisely and consistently and gives the same results under the same conditions

over time (Mugenda & Mugenda, 2003). The study used test-retest reliability method whereby the same instruments were re-administered within two weeks after the first administration to the same respondents. The two sets of the scores for each school were correlated using Pearson's product moment correlation formulae to test the reliability of the instruments. Following is Pearson's correlation coefficient formula:

$$r = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2][N\sum Y^2 - (\sum Y)^2]}}$$

Where:

N = Number of pairs of scores

$\sum XY$ = sum of the products of pairs of scores

$\sum X$ = sum of x scores

$\sum Y$ = sum of y scores

$\sum X^2$ = sum of squares x scores

$\sum Y^2$ = sum of squared y scores

According to Mugenda and Mugenda (2003), a correlation coefficient of 0.7 or above is appropriate, hence a correlation of 0.7 and above was considered adequate for data collection instruments.

3.8 Data Collection Procedures

Data for this study were collected from one main source, namely primary data. Due to Covid-19 restrictions on movement and social distancing, the researcher had to use methods that minimised physical interactions. With the help of the Zonal Curriculum Support Officer (CSOs), the researcher obtained mobile

numbers of the headteachers. The headteachers in turn helped in identifying the teachers who were teaching at lower primary in their schools and contacts of parents of Grade 3 pupils. With the assistance from the CSO, the researcher dropped the teachers' questionnaires in the CSOs office and followed guidelines on sanitization. The questionnaires were picked after the third day. Each questionnaire was packed in a separate envelop and clear instructions were provided on how to handle the instruments.

The headteachers were interviewed over the phone using zoom/google meet. Teachers helped to gather a few pupils within their locality for the FGDs. Each FGD had between 5 to 7 Grade 3 children who resided within a short distance of the teacher facilitator's home. During the FGD, the children were supplied with facemasks, sanitized hands and kept social distance. Where it was not possible for the researcher to visit during FGD, on-speaker normal call was used. The researcher ensured that teacher facilitators could access 4G internet. During the calls, the researcher sought permission from the respondents to record the conversations and assured them of strict confidentiality and privacy of the data.

3.9 Data Analysis Techniques

After receiving all the questionnaires back, the researcher embarked on the editing process. During editing, data were scrutinized for inadequate or irrelevant responses and checked to determine whether an acceptable return rate had been

achieved in relation to the instruments issued out. Data analysis involved developing summaries, looking for patterns and applying statistical techniques. Qualitative data were analysed by categorising and indexing responses into common themes. Verbatim excerpts from the respondents were used in the analysis to support specific arguments.

All the quantitative data were Data were analyzed using excel and power BI. Data entered in Excel was exported into BI for further analysis and visualization. .Both descriptive and inferential statistics were used in the analysis. . Interpretation of findings was done in light of the study objectives, reviewed literature and the theoretical and conceptual frameworks. The findings were presented in tables and figures.

3.10 Ethical Considerations

The study observed ethical issues during data collection. Respondents were assured of their anonymity and confidentiality of their responses. It was made clear to them that the information the researcher needed was purely for academic purposes and that their participation w was voluntary. They were informed that any decision to withdraw or decline any information whatsoever any time would be respected.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the findings of the study based on the methodology discussed in chapter three. The chapter starts with descriptions of respondents, followed by interpretation and discussions of findings. The purpose of the study was to investigate the influence of teacher related factors on implementation of CBC curriculum at the lower primary school level in Luanda Sub-County, Vihiga County Kenya. Data included for analysis are only those from items that were answered; unanswered questions were omitted and classified as “missing system”. Such exclusions are footnoted if more than 5 percent of the items were omitted from the analysis. The analysis are presented thematically according to the research objectives. First, descriptive analyses are presented followed by inferential analysis. The research questions raised in chapter one are answered and discussions made to link the study findings with the existing body of knowledge. Data are presented in tabular and figural form.

4.2 Response Rate

The researcher administered questionnaires to 186 randomly select lower primary school teachers, 15 head teachers and 90 Grade 3 pupils. Table 4.1 presents the response rates.

Table 4.1: Instrument return rate

Respondent	Sample	Returned	Percentage
Teachers	186	183	98.36
Head teachers	15	15	100.0
Total	483	486	96.89

Table 4.1 shows that the teachers' response rate was 183 (98.36 %,) and head teachers' was 15 (100.0 %). Out of the 15 planned FGDs of 6 pupils per school, the researcher was able to conduct 10 FGDs (66.66%) of between 5 to 7 pupils who were residing in close proximity of teacher facilitators. The method of reaching out to respondents had to change due to Covid-19 Ministry of Health rules (procedure explained in chapter three). All the instruments returned yielded high return rates. According to Mugenda and Mugenda (2003), a response rate of 50% is sufficient for data analysis. The responses were considered adequate for analysis and generalisation of results. The response rate for this study indicates that the researcher was accorded maximum cooperation by the target groups and that the data collected were statistically representative of the sample hence they could be relied upon to make valid conclusions after careful analysis.

4.3 Demographic Information of Respondents

The respondents for this study were headteachers, teachers and pupils of lower primary schools in Luanda Sub-County. Headteachers and teachers were requested to give information about their gender, age, professional and academic

qualifications and years of service. The analysis of the information is presented in subsequent sub-sections.

4.3.1 Headteachers’ demographic information

Headteachers’ demographic information was considered important because it showed the caliber of those charged with the responsibility of management and administration of primary schools; including effective implementation of the new curriculum; the CBC. Headteachers play key roles in the implementation of educational policies and programmes in their schools. Table 4.2 presents their personal demographic data on gender and age.

Table 4.2: Headteachers’ demographic characteristics

Variable	Frequency	Percent
Gender		
Male	11	73.0
Female	4	27.0
Total	15	100.0
Age		
35 - 40	1	6.6
41 -45	2	13.3
46 - 50	5	33.0
51 -55	4	26.6
56 -60	3	20.0
Total	25	100.0

Information in Table 4.2 shows that males who accounted for 73.0 percent compared to female headteachers who were 27.0 percent. This means that headship in primary schools in the studied area was male dominated. The

observation shows that the hiring policy with respect to school headship was slightly biased towards male teachers. According to the 2010 Constitution of Kenya (2010), either of the gender should take up a third of any appointments to a public office.

Craig (1989) asserts that in a school, it is the headteacher who has the key to leadership role. Consequently, the school head has to be a mature person who is able to lead and give proper guidance to the rest of the school community. The school head must therefore be able to command respect from other stakeholders. In such circumstances, age becomes a variable of interest. It was established that majority of headteachers (79.6%) were over 46 years of age. Since headteachers are charged with the responsibility of supervising implementation of the CBC in their schools, the above observation indicates that school headship in the study region 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.

The headteachers were further asked to indicate their administrative experience. It was important to identify the duration in which the respondents had been head teachers so that the researcher may evaluate whether their experiences had any influence on the way they performed their supervisory roles especially on the implementation of the CBC. Figure 4.1 summarises this information.

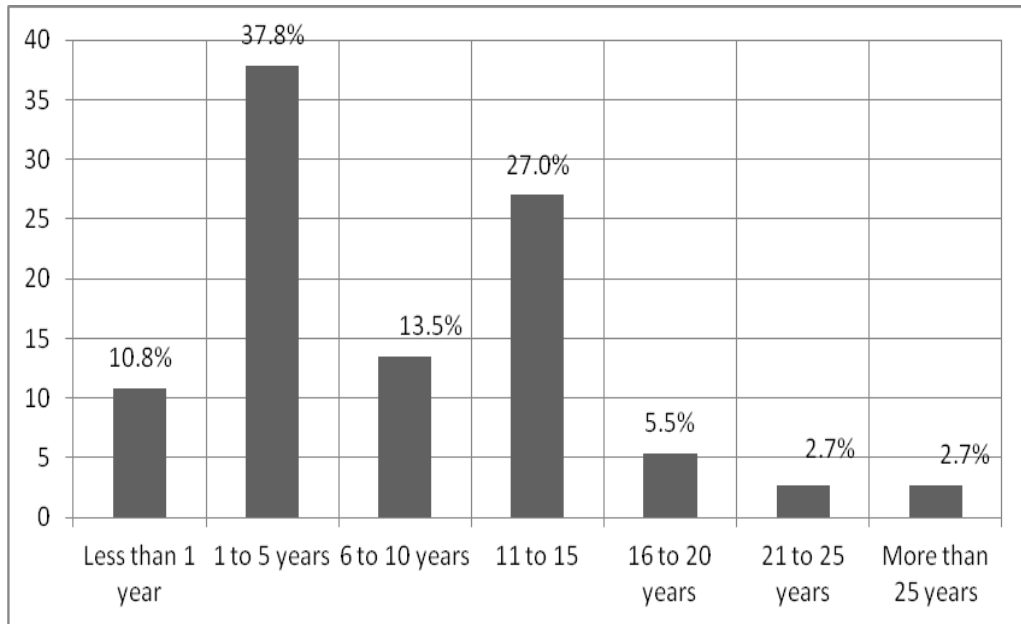


Figure 4.1: Headteachers administrative experience in years

In Figure 4.1, it was established that slightly over half of the headteachers (51.4%) had headship experience of more than six years and 37.8% had experience ranging between one and five years. A paltry 10.8% had headship experience of less than one year. It is therefore noteworthy that majority of headteachers had, out of their lengthy experience, acquired supervisory skills necessary for facilitating effective classroom implementation of the CBC by teachers working under them. UNESCO (2005) underscores the need to have experienced school managers who can work jointly with other stakeholders towards the success of educational programmes.

4.3.2 Teachers demographic information

Analysis of teachers' background information was done in relation to their age, gender, professional qualifications, and teaching experience. Table 4.3 summarises age distribution of teachers who teach at lower primary classes as cross-tabulated by gender.

Table 4.3: Teachers' age and gender

Gender	Age in Years					Total	
	Below 20	21 - 30	31-40	41-50	51 -60		
Female	106 (57.9)	0 (0.0)	12 (11.3)	19 (17.9)	33 (31.1)	42 (39.6)	106 (57.9)
Male	77 (42.1)	2 (2.6)	5 (6.5)	14 (18.2)	22 (25.8)	34 (44.1)	77 (42.1)
Total	183 (100.0)	2 (1.1)	17 (9.3)	33 (18.0)	55 (30.1)	76 (41.5)	183 (100.0)

From Table 4.3, it is clear that more female teachers 106 (57.9%) were teaching at lower classes. This could be a good trend because women teachers are known to be more motherly and caring. This trait is valuable when handling young children at lower classes and would facilitate implementation of CBC.

Teachers who were over 40 years of age represented the largest cluster group (71.6%). Those aged above 50 years and nearing retirement age were 41 percent. It is common to find teacher who are near retirement preferring to teach at lower classes. This observation may be a reflection of the Teachers Service Commission's change of policy in the hiring of teachers from 1998 hence majority

of the teachers are in the higher age brackets. This type of age distribution of teachers was also established in a study done by UNESCO (2005) in primary schools in Kericho District whereby majority of the teachers sampled for the study (71%) were aged above 45 years.

4.4 Teachers' Qualifications and Implementation of Competency-Based Curriculum at Lower School Level

The information on teachers' qualification was analyzed through research questions number one. Teacher qualification is a pre-requisite requirement for meeting the objectives of the CBC curriculum. Teacher qualifications refer to academic and professional qualifications that enables a person to become a registered teacher at all levels of education. It also relates to the acquisition of relevant knowledge, skills and competence and creativity needed for quality implementation of a curriculum. In this study, teacher qualifications were measured in terms of academic, professional, and teaching experience.

4.4.1 Teachers academic qualifications and implementation of the competency based curriculum

Teacher s' academic qualifications or educational level has profound influence on effective implementation of curriculum. Penuel, Fisherman, Yamaguichi and Gallagher (2007) contend that educational attainment of teachers influence how

teachers perform in a class. By extension, academic qualification of the teacher influences his or her classroom competence. Teachers were requested to indicate their highest academic qualifications and Table 4.4 summarises the data.

Table 4.4 Teachers’ academic qualifications

Academic qualification	Frequency	Percentage %
Certificate	93	50.50
Diploma	83	45.20
Undergraduate degree	5	02.10
Post-graduate degree	2	01.10
Total	183	100.00

Results in Table 4.4, show that majority (50.5%) of the lower primary school teachers in Luanda sub-county were certificate holders while 45.2% had diplomas. The level of education is significant in the lower primary school teachers’ ability to impart knowledge in the learners. The findings of this study imply that all of the lower primary school teachers have the minimum professional qualifications required for them to teach at primary school level.

The fact that about half (50.5%) of the teachers were certificate holders is a concern. Low levels of education may negatively affect the implementation of CBC. Rutere (2012) opines that teachers with higher qualifications are better equipped with skills and knowledge to implement curriculum. Burchinal et al. (2002) asserted that with the highest level of formal education (such as Bachelors

degree) or those who attended workshops (at the center, in their community, or professional meetings) had higher ratings of observed classroom quality on a global scale, even after controlling for the adult-child ratio, state-related differences, and classroom types. Ryan and Copper (2011) in their study also found that higher-quality childhood education programmes were those where the lead teachers had Bachelor's degrees in child development.

4.4.2 Teachers' professional qualifications and implementation of competency based curriculum

The researcher collected information on teachers' professional qualifications to find out its influence on the implementation of CBC. Professional qualifications are important because they determine the teaching methodology used for maximum benefits to the students. Teachers with higher qualifications have better understanding and exposure in their subject areas and tend to enrich the teaching and learning process (Rutere, 2012). Qualified teachers possess skills that enable them to employ suitable teaching methods and select relevant teaching and learning resources for implementing CBC at lower primary schools. Professional training is acquired during pre-service training and in-service training. Table 4.5 presents teachers highest professional qualifications.

Table 4.5: Teachers’ professional qualifications

Professional qualification	Frequency	Percentage %
P1 Certificate	93	50.50
Diploma in Education	83	45.20
B.Ed	5	02.10
M.Ed	2	01.10
Total	183	100.00

Results in Table 4.5, show that majority (50.5%) of the lower primary school teachers in Luanda sub-county were P1 certificate holders while 45.2% were diploma holders. The level of education is significant in the lower primary school teachers’ ability to impart knowledge in the learners. The findings of this study show that all of the lower primary school teachers had the required professional qualifications for them to teach at primary school level. This is likely to influence implementation of CBC positively. Penuel et al. (2007) argued that teachers who are professionally qualified tended to associate and commit themselves more to curriculum implementation requirements.

After finding out that all teachers handling lower primary school classes possessed the requisite academic and professional qualifications, the researcher sought to find out their readiness for implementation of CBC. When asked whether they were implementing the CBC curriculum, all the 183 (100.0%) teachers either strongly agreed or agreed that they were prepared to implement the new curriculum. This was contrary to the findings by Tilya and Mafumiko (2010)

and Moshi (2012) who found that a large number of teachers were not prepared to implement CBC in Tanzania.

To determine the teachers' readiness, the researcher used such indicators as attendance of in-service trainings and areas covered during the trainings. Figure 4.2 shows teachers attendance of in-service trainings on CBC methodology.

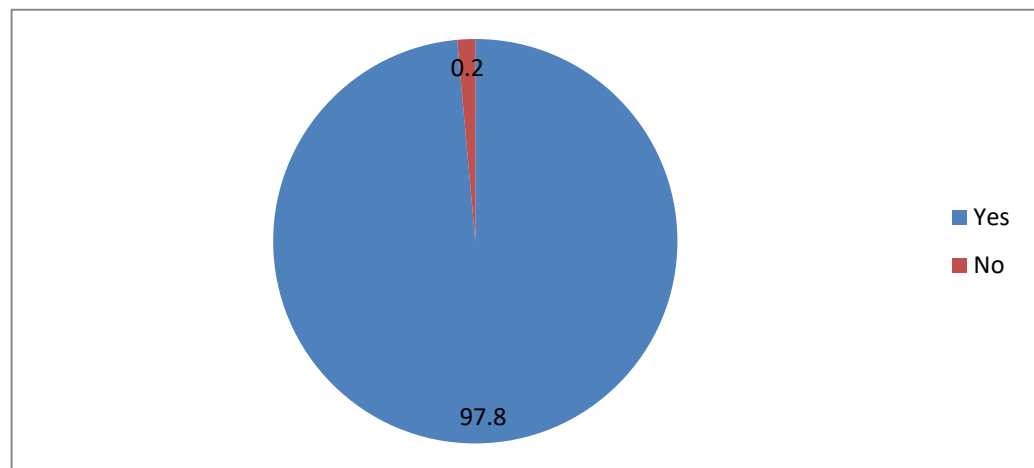


Figure 4.2: Attendance of in-service training on CBC methodology

Figure 4.2 shows that majority of the lower primary school teachers (97.8%) had attended in-service training on CBC. This implies that majority of the teachers had been inducted in the ways of implementing the new curriculum at the lower primary school level in Luanda Sub-county and were therefore implementing CBC. Darling-Hammond, Wei and Andree (2010) in their study confirmed that countries that supported teacher in-service training towards professional development as well as involving the implementers in curriculum decision

making, demonstrated high learner achievements in schools. Therefore, to ensure successful CBC implementation, teachers should be trained and inducted adequately in advance.

Teachers were requested to indicate the number of trainings/workshops they had so far attended on CBC. The findings are presented in Table 4.6.

Table 4.6: Number of CBC trainings attended by teachers

Number of service training attended	Frequency	Percentage %
One	66	35.5
Two	48	25.8
Three	38	20.4
Four	16	8.6
Five and above	13	9.7
Total	183	100.0

Table 4.6 shows that a majority of lower primary school teachers (35.5%) had attended between one 66 (35.5%) and two 48 (25.8%) in service training sessions on CBC implementation. This is over a half (61.3%) of the teachers implementing the new curriculum at lower primary school. This would mean that even though teachers said they were prepared to implement the CBC, majority were not adequately trained on the new curriculum and therefore likely not to implement it effectively. These findings confirm the sentiments in the KNUT (2018) report that teachers had received little or no training through in- service training or workshop

inductions on CBC and were, therefore, experiencing challenges towards the implementation of the curriculum.

Any training should cover important content areas. The teachers were asked to indicate the areas covered which they felt were most important in the implementation of CBC. Table 4.7 presents the findings.

Table 4.7: Most important topics covered during CBC training

Most important areas covered during in-service training	Frequency	Percent
Core competencies	183	100.0
Schemes of work	135	73.77
Learner assessment using rubrics and portfolios	168	91.8
Subject content	106	57.92
Digital literacy	176	96.17
Integrating pertinent and contemporary issues, values and community service	183	100.0
Lesson plans	158	86.34

N =183

Results in Table 4.7 shows that teachers felt that all the areas covered during training were important. The three areas rated as most important by a majority of the teachers were; core competencies 183 (100.0%); integrating pertinent and contemporary issues 183 (100.0%) and learner assessment using rubrics and portfolios. These areas were highly rated probably because they are totally new when compared to the 8- 4- 4 system of education that is being phased out. Subject

content had the least number of teachers rating it as most important 106 (57.92%). The content areas of lower primary are not challenging and teachers could have felt there was nothing new to learn in them.

A follow up questions was asked on whether teachers felt the areas covered during training influenced the way they implemented the CBC. All (100.0%) teachers said the areas had great influence on curriculum implementation. In particular, integration of pertinent and contemporary issues, values and community service into the content (100.0%) and use of rubrics and portfolios in assessment of learners (100.0%) were singled out as areas that greatly influenced CBC implementation.

The headteachers (100.0%) also felt that all the areas that teachers trained in were important to the implementation of CBC. They said the trainings were especially useful since there was a lot of divergence in the CBC from the old 8-4-4 curriculum. When teachers were asked the areas where they felt they needed further training, they pointed the ones listed in Table 4.8.

Table 4.8: Areas teachers require more training that influence CBC implementation

Areas to be trained on	Frequency	Percent
Evaluation	108	59.01
Digital literacy	146	79.78
Interpretation and teaching of core competencies	89	48.63
Teaching approaches	69	37.70

N = 183

Teachers listed four areas as the ones they still need further training. Digital literacy (79.78%); evaluation (59.01%) and interpretation and teaching of the core competencies (48.63%) were the areas that were of great need to the teachers who participated in the survey. These findings echo those of Chege (2014) who found that only 3.8 percent of the teachers were very confident on their ability to use ICT during classroom instructions delivery and therefore recommended vigorous training ICT training to make teachers more effective. For teachers to effectively integrate ICT in their classroom instructions delivering, they must be equipped with technological and information skills on the usage of ICT devices.

The results of this study are also similar to those of Makunja (2016) who found that in Tanzania, 27.45% of teachers were not able to apply CBC teaching approaches due to lack of in-service training opportunities. Moshi (2012) in another study in Tanzania revealed that teachers were not using the recommended child-centered approaches n CBC. This is an indication that teachers need further training to effectively develop the required competencies in the learners.

4.4.3 Teaching experience and implementation of competency based curriculum

Working experience is an important variable in curriculum implementation. The most experienced teachers are expected to be the most efficient and effective in curriculum implementation than those less experienced. Teacher experience has to

do with the increased awareness of diversifying search for new ideas, new commitments and new challenges. Teachers’ experience and knowledge of subject matter are unique qualities for teaching effectiveness. Rice (2010) contends that the magnitude of the effect of teacher experience varies depending on the teacher’s level of education and subject area. He further opined that experience gained over time, enhances the knowledge, skills, and productivity of workers. Several studies show that teacher experience has a more positive relationship with quality teaching or implementation (Hanushek, 2003). The researcher sought to find out the work experience of the lower primary school teachers. Information in Table 4.9 shows the work experience of the teachers in terms of years served.

Table 4.9: Teachers’ years in service

Years in service	Frequency	Percentage
0 - 5	3	1.64
5 - 10	13	7.1
11 - 15	24	13.11
16 - 20	56	30.61
Over 20	87	47.54
Total	183	100.00

The information in Table 4.9 indicates that majority (47.54%) of the lower primary school teachers in Luanda sub-county had been teaching for over 20 years and another (30.61%) for between 16 – 20 years. These findings corroborate those in Table 4.3 that shows that most teachers handling lower primary classes were nearing retirement.

Most teachers (78.15%) had long years of service, which were equated to long experience. Therefore, teachers' experience positively influenced implementation of CBC. This argument is in line with Domike (2002) who opined that between the 15-25 years of teaching, teachers draw a balance sheet of their career lives and examine the unlikelihood of changing careers. At this stage, teachers are more critical, direct and dominance prevails. Maduabum (2007) posited that newer teachers may be excited about new discoveries, but teachers with more experience can distinguish valuable ideas from passing facts. Experience brings humility, good judgment and ability to see the larger picture in implementation of curricular.

The researcher asked teachers and headteachers whether teachers' qualifications influence effective implementation of the CBC. They were given a statement to rate using the key 1 = strongly disagree, 2 = disagree, 3 = moderately agree, 4 = agree and 5 = strongly agree. Table 4.5 contains teachers' responses.

Table 4.10: Teachers and headteachers ratings on influence of teacher qualifications on implementation of CBC

Statement	Respondent	5		4		3		2		1	
		F	%	F	%	F	%	F	%	F	%
Teachers (N = 183)	Teachers' academic and professional qualifications influence their ability to interpret and implement CBC	38	20.7	54	29.4	19	10.6	32	17.7	40	21.8
Mean		2.63		3.16		1.98		2.41		2.94	
Overall mean		2.98									
Headteachers (N = 15)	Teachers' academic and professional qualifications influence their ability to interpret and implement CBC	5	33.3	3	20.0	2	12.0	2	12.0	3	20.0
Mean		3.4		2.0		1.50		1.63		2.98	
Overall mean		2.86									

Findings in Table 4.10 indicate that teachers who agreed that academic and professional qualifications of teachers influenced implementation of CBC had the highest score with a mean of 3.16. However, a substantial number of teachers (M = 2.94) disagreed that such qualifications of teachers influenced implementation of CBC. Similarly, most of head teachers either strongly agreed (M =3.14) or agreed (M = 2.0) that teachers level of education and professional qualifications influence implementation of the CBC. These findings implied that the higher the teachers'

professional and academic qualifications, the more effective teachers were in the implementation of the competency-based curriculum. Since all teachers had either P1 or diploma and above qualifications, it was highly likely that this would positively influence the implementation of CBC. Jacob (2007) averred that higher academic qualifications positively correlated with pupil achievement due to proper curriculum implementation.

4.5 Influence of Teachers' Pedagogical Content Knowledge on Implementation of CBC at Lower School Level

This section contains responses sought on teacher' level of pedagogical content knowledge and its influence on implementation of the competency-based curriculum in Luanda sub-county. The lower primary school teacher's knowledge base that was of interest in this study was content knowledge and pedagogical knowledge. According to Etkina (2005), content knowledge is knowledge of the discipline itself, and includes such things as procedural methods; content that students should learn and teacher-preparation documents. Content knowledge is a unique field that includes substantive and syntactic components. The substantive covers the knowledge of rules, facts, principles, concepts and theories in a specific field while the syntactic component compasses knowledge of the process through which knowledge is generated in the field (Tamir, 1988). Pedagogical knowledge represents a "generic why and how to" of teaching.

4.5.1 Teachers' content knowledge and implementation of CBC

Content knowledge has a very important role to play because effective implementation of curricular depends on teachers understanding of the subjects they are teaching, knowing the structure and sequencing of concepts, developing factual knowledge essential to each subject and guiding their pupils into the different ways of knowing that subjects provide. When there is a lack of subject expertise, or it is unevenly spread across teaching groups, then the quality of curriculum implementation and pupils performance in examinations are at risk (Smithers & Robinson, 2005). Using a 3 point Likert type scale, where 3 = Strongly agree, 2 = Agree, and 1 = Disagree, teachers were requested to rate their levels of agreement on statements on content knowledge. Table 4.11 shows summary of the lower primary school teachers' responses on the level of content knowledge.

Table 4.11: Teachers' opinions on their levels of content knowledge

Statement	Ratings						Total	
	3		2		1		F	%
	F	%	F	%	F	%		
I have sufficient knowledge in my teaching subjects of CBC	61	33.3	98	53.8	24	12.9	183	100.0
I have various ways and strategies of developing my understanding of my teaching subjects in line with the CBC.	83	45.2	80	44.1	20	10.8	183	100
I can adapt my teaching content based on students current understanding of CBC	96	52.0	72	39.7	15	8.3	183	100.0

Table 4.11 shows that majority (87.1%) of the teachers either strongly agreed or agreed that they had sufficient content knowledge to implement CBC with only 12.9 percent feeling that they did not have adequate content knowledge. This implies that most teachers were confident about their knowledge of CBC content and this would facilitate smooth implementation of CBC. The findings further established that only 10.8 percent of the lower primary school teachers felt that they did not have adequate strategies of developing student understanding in line with the CBC curriculum implementation. A further small number (8.3%) felt that it was not easy to adapt their CBC content to the levels of learners understanding. Overall, it was clear that teacher had sufficient content knowledge to implement the CBC. These findings are contrary to those of a study conducted in Tanzania by Moshi (2012) who found that most of the teachers could not select appropriated learner centered experiences suitable for specific lessons' outcomes as per the curriculum implementation expectations.

The researcher in a follow up question asked teachers their views on whether content knowledge influences how they engage with learners as they implement the new curriculum. Their responses are contained in Table 4.12.

Table 4.12: Teachers’ opinions on influence of content knowledge on learner engagement

Teachers subject knowledge influence how teachers engage with learners				
Rating	Agree	Neutral	Disagree	Total
Frequency	159	14	10	183
Percent	87.1	7.5	5.4	100.0

Table 4.12 shows that majority (87.1%) of the lower primary school teachers in Luanda sub-county agreed that teacher’s content knowledge influences how teachers engage with their learners; thereby influencing implementation. Paulo (2014) avers that the understanding of subject matter of a discipline helps teachers to prepare adequately for the lessons, use varied teaching methodologies, and evaluated their learners’ assignments properly.

These findings concur with those of studies carried out by Kunter, Blum, Jordan, Bruner, Voss and Tsai (2010) and Kunter, Voss and Bumert (2011) who averred that content knowledge affects how teachers engage and deliver their content during classroom instructions and the learners’ achievement. This implies that the teachers’ subject content is very significant as it influences how the teachers implement CBC curriculum with the learners. How much the teachers know and understand the subject content defines how much well the teachers are able to teach the curriculum content to the learners (Jadama, 2014).

During the interview, headteachers agreed that content knowledge has great influence on how CBC is implemented. They said that content knowledge

influences the instructional materials that teachers select for use in their lessons and how they deliver that content. Their argument agrees with Paulo (2014) who revealed that when teachers understand the subject matter of any given discipline, they are more likely to prepare adequately in advance for classroom lessons and instructional material in use. One headteacher had this to say:

I think content knowledge is ahead of pedagogy these days, because our daily practice is of teaching. We are highly skilled at the “how”, but sometimes we need more work on the “what”.

Another headteacher argued that one has to know “what to teach” before learning “how to teach”.

4.5.2 Teachers’ pedagogical knowledge and implementation of CBC

Pedagogical knowledge enables teachers to practice teaching effectively during implementation of CBC. It plays an important role in making the instructional practice more understandable to the pupils. Faisal (2016) argues that it is the knowledge of strategies and ways that a teacher requires to deliver and more importantly to transform subject matters to learners consistent with their interests and potential. Pedagogical knowledge includes teaching methods, classroom management, presentation, and practice techniques. In this study, pedagogical knowledge was viewed as the lower primary teachers’ knowledge of numerous teaching methods and strategies that influence the implementation of the CBC.

Using a 3 point Likert-type scale, where 3 = Strongly agree, 2 = Agree, and 1 = Disagree, lower primary teachers were requested to rate their levels of agreement on statements on pedagogical knowledge. Table 4.13 shows summary of the lower primary school teachers' responses on the level of content knowledge.

Table 4.13: Teachers' opinions on their levels of pedagogical knowledge

Statement	Ratings						Total	
	3		2		1		F	%
	F	%	F	%	F	%		
I can adapt my teaching style to different pupils	75	40.98	98	53.80	10	5.46	183	100.0
I can use a wide range of teaching approaches in a classroom: collaborative learning, lecture method, class discussions, modeling, Inquiry-guided instruction, experiential learning, problem-based learning.	83	45.2	65	35.51	35	19.12	183	100
I know how to select effective teaching/learning approaches to guide pupils thinking and learning	96	52.0	72	39.7	15	8.3	183	100.0

Results in Table 4.13 show that majority of the lower primary school teachers, (53.8%) agreed that they could adapt their teaching styles to suit different pupils during implantation of CBC curriculum. Another 40.98 percent strongly agreed to the statement. This has positive impact on implementation of CBC where teachers are supposed to treat each learner as an individual and to use differentiated learning.

Equally, majority of the teachers (80.71%) very strongly and strongly agreed that they could use a variety of teaching methods and approaches to implement

CBC curriculum. In CBC designs, teachers are expected to vary teaching and learning methods to effectively implement the new curriculum (KICD, 2017). In the same breadth, over three quarters (89.7%) of the teachers said that they know how to select appropriate teaching and learning methods that facilitate pupil learning. This finding was important in that CBC focus is on acquisition of competencies (learning) as opposed to schooling (KICD, 2017).

The pupil discussants said that teachers deliver interesting lessons and engage them in interesting activities inside and outside the classroom. When students enjoy carrying out activities during lessons, it is an indication that the methods used by teachers are effective in the implementation of CBC curriculum. One pupil said:

Our mathematics teacher told us to come with counters. I came with small sticks. Other children brought bottle tops. We use them to count during mathematics lessons. This has made mathematics easy.

The headteachers opined that pedagogical knowledge greatly influenced implementation of CBC. Headteachers reported that the seating arrangement in lower classes facilitates use of collaborative approaches and sharing of books among pupils. Teachers organise pupils in circular sitting arrangements. One headteacher said that during class visitations, he has observed that teachers were using interactive teaching methods as recommended by the Ministry of Education.

The researcher requested the teachers to rate the extent to which they felt pedagogical knowledge influenced implementation of CBC. Their responses are contained in Table 4.14.

Table 4.14: Teachers’ opinions on influence of pedagogical knowledge on learner engagement

Teachers pedagogical knowledge influence implementation of CBC				
Rating	Great extent	Some extent	Small extent	Total
Frequency	166	13	4	183
Percent	90.8	7.0	2.2	100.0

Table 4.14 shows that almost all (90.8%) of the lower primary school teachers in Luanda sub-county agreed that the teachers’ pedagogical knowledge influence implementation of the CBC curriculum. This means that how teachers teach influence how pupils learn, therefore acquisition of the CBC competencies.

Most of the head teachers agreed that pedagogical content knowledge of teachers influence implementation of CBC. To facilitate acquisition of such knowledge, many of the interviewed headteachers, attested that they had carried out training workshops in their own schools to sensitize their staffs on CBC after themselves were trained on by the KICD staff. They trained teachers in areas such as schemes of work, lesson planning, assessment and application of the core competencies. A survey by KICD (2018) revealed that most (80.0%) of the headteachers were able to mentor and support their teachers in CBC implementation.

4.6 Influence of Teachers’ Information, Communication and Technological Skills on CBC Implementation

Use of technology in class makes learning interesting and engaging to learners. It creates many amazing opportunities for schools and teachers to benefit from integrating some forms of technology in the classroom and to make teaching and learning more effective. One of the competencies that learners are required to acquire in the CBC curriculum is digital literacy. For teachers to impart the skill in the learners, they must themselves possess the technological skills.

4.6.1 Teachers’ exposure to ICT tools in schools

The researcher first established whether lower primary school teachers’ had adequate exposure to ICT tools required to implement CBC. They rated the extent of exposure using a 3-point scale: 3 = great extent; 2 = some extent; and 1 = small extent. The findings are summarised in Table 4.15.

Table 4.15: Teachers’ exposure to ICT

My school has given me adequate exposure to ICT tools to implement CBC				
Rating	Great extent	Some extent	Small extent	Total
Frequency	112	56	15	183
Percent	61.3	30.7	8.0	100.0

Table 4.15 shows that majority (61.3%) of the lower primary school teachers in Luanda sub-county had been exposed to ICT tools to a great extent. Only 8 percent of the teachers felt that exposure was not adequate enough to allow

effective implementation of CBC. This means that due to inadequate exposure to ICT tools, some teachers handling lower classes at primary school Luanda sub-county may not effectively integrate digital literacy in their teaching subjects.

The findings are in line with the report released by the Kenya Institute of Education [KICED] (2018) which pointed out that majority of the teachers (70%) had not been adequately exposed to ICT tools such as computers, mobile phones, laptops and tablets.

4.6.2 Teachers' ICT skills and implementation of CBC

The second dimension on influence of ICT on implementation of CBC consisted of items regarding teachers' perceptions on the ICT skills they felt they possess for classroom practice. In the Basic Education Curriculum Framework (KICED, 2017), one of the objectives is that pupils in the Early Years of Learning (Pre-school: PP1 - PP2 and Grade 1 – 3) should “Apply digital literacy skills for learning and enjoyment” p.29. Teachers are expected to integrate digital literacy across all subjects. Teachers rated the skills using a Likert scale ranging from 5 = strongly agree to 1 = strongly disagree. The results are summarised in Table 4.16.

Table 4.16: Teachers perceived ICT skills

Statement	Mean	SD
I feel well prepared to manage the challenges that the integration of ICT brings in the teaching of the CBC competencies in the classroom	2.98	1.63
I think I have the pedagogical knowledge required to use ICT-based instructional-learning activities in my class	3.51	1.64
I believe I have the technical knowledge and skills required to use ICT in my class	3.42	1.59
I can use educational software regarding my subjects available at my school	2.93	1.21
Overall	3.18	1.41

As reported in Table 4.16, a large majority of lower primary school teachers were positive towards their pedagogical knowledge of ICT skills ($M = 3.51$; $SD = 1.64$) and their abilities to use ICT for teaching ($M = 3.42$; $SD = 1.59$). However, variables indicated a moderate level of teachers' self-efficacy to integrate ICT in classroom practice ($M = 2.98$; $SD = 1.63$). Overall, values of responses regarding their faith and confidence, in both technological and pedagogical knowledge needed to effectively use educational software to integrate ICT into their instructional practices were neutral ($M = 2.93$; $SD = 1.21$). This shows that although a good number of teachers are confident about the ICT skills they possess and can use them to deliver lessons in the classrooms, a

good number is still not confident. This can negatively influence implementation of the CBC. These findings echo the results in a report by KICD (2018) that indicated that 61.0 percent of the lower primary school teachers had not been in-serviced or trained on ICT use, therefore, they were not confident in digital literacy implementation.

4.6.3 Teachers actual use of ICT in implementation of CBC

The researcher investigating teachers’ actual use of ICT in implementation of CBC curriculum during classroom practice. Table 4.17 shows the findings.

Table 4.17: Teachers perceived ICT skills

Statement	Mean	SD
I use ICT to prepare and deliver my lessons	2.28	1.53
I make use of a projector to present my lessons in class	1.20	1.31
I use ICT in my class work with my pupils	2.14	1.53
I assign my pupils tasks and activities that require using ICT and internet	2.33	0.41
Overall	2.21	1.55

The results in Table 4.17 indicate that majority of the lower primary school teachers in the sample were not using ICT to prepare and support their formal teacher-centered instruction (M =2.28; S.D = 1.53). Almost no (M =1.2; SD =1.31) teachers were using projectors in their classrooms. This is understandable given that a projector could be a gadget most rural primary schools cannot afford to buy. The means of the other two statements related to the integration of ICT in

teaching were below the midpoint of 3.00 (range from 2.14 to 2.33). These findings clearly point that teachers at lower primary are yet to fully embrace use of digital literacy in teaching and learning. Failure to integrate ICT in teaching and learning negatively influences implementation of CBC, which is a digitally based curriculum.

These findings reiterate existing literature findings regarding the low rate of adopting ICT in the schools as a learning tool to support students' active learning through their engagement in properly designed ICT-based activities, in both classroom practice and beyond the classroom boundaries (Wikan & Molster, 2011). A similar argument was advanced by Higgins and Moseley (2011) pointed out that when teachers lack ICT knowledge, it hinders digital implementation. Harrison, Hennessy and Wamakote (2010) in their study confirmed that the main hindrance in ICT implementation was low levels of teachers' knowledge and skills. Makunja (2016) too found that, teachers had not fully embraced ICT in schools due to insufficient in-service training. Some teachers had not attended any in-service training or workshops on ICT. This means that lack of training opportunities contribute to low ICT skills among teachers. In-service training is important for equipping teachers with knowledge, skills and creating a positive attitude among the teachers for effective implementation of CBC.

In a follow-up question, teachers were required to air their opinions on whether their knowledge and use of ICT influenced implementation of CBC curriculum. Table 4.18 presents these answers.

Table 4.18: Teachers’ opinions on influence of ICT on CBC implementation

Integration of ICT in teaching subjects influences implementation of CBC				
Rating	Great extent	Some extent	Small extent	Total
Frequency	155	25	3	183
Percent	84.69	13.66	1.63	100.0

Table 4.18 shows that an overwhelming majority of teachers (84.69%) agreed that integration of ICT for instruction influences implementation of CBC to a very great extent. Only a negligible number 3 (1.63%) of teachers were of a contrary opinion. The teachers’ opinions are in line with objectives of the Basic Education Curriculum Frameworks that is aligned with Vision 2030 where education and training are the vehicles of achieving digital literacy and making Kenya an industrialised society.

4.7 Influence of Teachers’ Perceptions on Implementation of CBC

This section focuses on lower schools teachers’ attitudes and perceptions on the implementation of CBC. Rogers (2003), states that many researchers consider perception as a critical factor influencing attitude and adaptation of an innovation.

If perception of an innovation varies on individual basis, they may be considered as contributing factors to an individual's attitudes towards any programme being implemented. Teachers' personal beliefs about CBC, their experiences with implementation of CBC and perceptions about using innovations in the CBC, such as new and creative ideas and practices for integrating technology, pertinent and contemporary issues, values, and community service in the CBC competencies into the classroom practices may influence the way they implement the new curriculum.

Teachers were given statements to indicate their views using an agreement Likert scale of 5 points: 5 = strongly agree; 4 = agree; 3 = moderately agree; 2 = disagree; and 1 = strongly disagree. A summary of the responses is captured in Table 4.19.

Table 4.19: Teachers perception on implementation of CBC

Statement	Rating									
	5		4		3		2		1	
	F	%	F	%	F	%	F	%	F	%
Assessment methods are child friendly	82	44.8	68	37.15	31	16.93	2	1.09	0	0.0
I enjoy preparing pupils portfolios	54	20.5	27	14.75	59	32.24	33	18.03	10	5.46
Use of digital literacy is interesting	43	23.49	68	37.15	45	24.59	27	14.75	0	0.0
CBC content is adequate	168	91.80	14	7.65	1	0.54	0	0.0	0	0.0
Activities are engaging and interesting	107	58.46	45	24.59	31	16.93	0	0.0	0	0.0
CBC preparations is time consuming	53	28.96	20	10.92	59	32.24	21	11.47	30	16.4
N = 183										

Table 4.19 indicates that majority (44.8%) of the teachers strongly agreed and agreed (37.15%) that assessment methods used in CBC curriculum are child friendly. Another 91.8 percent lauded the CBC for having adequate content is adequate for the learners unlike the former 8-4-4 curriculum that was said to be burdening to learners. Most teachers also strongly agreed and agreed (83.05%) that teachers engaged learners in activities that were engaging and interesting during CBC implementation. This shows that most teachers handling lower primary classes had positive perceptions towards CBC implementation.

These findings are in agreement with those of Gruber (2018) who opined that one of the strongest outcomes of CBC was increased learner engagement, and that CBC accommodated a variety of learning styles making learning a truly individualized experience. However, a substantial percentage of teachers (39.88%) felt that CBC is time consuming in terms of in lesson preparations and scheming. Another study conducted by Musya (2016) on teachers' perceptions toward competency based education revealed that 33.3% of the facilitators, had not fully comprehended the concept of competency based education, and could not use the learning and teaching methods recommended for CBE. This showed that some teachers were not enthusiastic about implementation of CBE.

During the FGDs, the researcher sought to know if pupils enjoyed learning with their teachers. Most pupils said they like being in school and in class. They cited reasons such as other pupils helping them with class work, teachers allowing

them to discuss when carrying out class activities, the singing games during PE lessons and the homework given was usually not very difficult.

One pupil said: Our teacher usually tells us what to do when we get home. She tells us to help our parents to sweep the compound and count eggs and chicken. She also tells us to remind our parents to help us with our homework.

The positive responses from the pupils were interpreted to mean that they were as a result of the positive perceptions of their teachers towards implementation of CBC.

During interviews, headteachers also felt that teachers' perceptions toward CBC had improved with time. All teachers in their schools had embraced CBC and with minimal complaints. Previously, teachers complained that CBC was involving from lesson preparation to learner assessment. There were too many activities that teachers and pupils were expected to accomplish together. One headteacher noted that in the new assessment criteria there was no competition so there was no pressure on learners. He noted:

When we conducted the national assessment for Grade 3 pupils in 2019, teachers encourage pupils to relax and be natural. Assessment was conducted in the usual classrooms where there was no spacing of learners or interfering with their discussions. The assessment atmosphere was the best ever. Teachers and pupils were relaxed and there was no tension because there was no fear of failure. Learners treated the assessment as the usual class work.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings of the study, presents the conclusions, recommendations, and suggestions for further research. The aim of the study was to investigate the influence of teacher-related factors on CBC implementation at lower primary school.

5.2 Summary of the Study

The study investigated influence of teacher-related factors on the implement CBC at the lower primary school level in Luanda sub-county, Vihiga County Kenya. Four objectives guided the study. They were: to determine how teachers' professional qualifications, pedagogical content knowledge, technological skills, and perceptions' influence implementation of CBC at the lower primary school level. The study used descriptive survey design. The study targeted 50 head teachers, 620 lower primary school teachers and 900 Grade 3 pupils. The lower primary school teachers were sampled using simple random sampling technique while purposive sampling was used with headteachers and pupils.. A sample size of 15 head teachers, 186 lowers school teachers and 90 pupils was selected for the study. Data were collected using questionnaires for teachers, interview schedules for headteachers and focus group discussion guides for the pupils. Data were

analyzed both quantitatively and qualitatively. Findings are as summarized in the following subsequent subsections.

5.2.1 Influence of teachers' qualifications on CBC implementation

The study findings show that half of the teachers possessed a P1 certificate while the other half had diploma in education and above qualifications. These findings revealed that the lower primary school teachers had attained the minimum professional qualification that is required for one to be employed at primary school level in Kenya. The fact that there were no unqualified teachers implementing the CBC was an indication of effective implementation of the CBC.

Teacher professional qualifications had positive influence on curriculum implementation. All the lower primary school teachers had college and above level of education. In addition, majority of the teachers had a long work experience of between 16 – 20 years (30.61%) and over 20 years (47.54%). These rich teacher characteristics are significant in CBC implementation. Teachers (M = 2.86) and headteachers (M =2.98) moderately agreed that teacher qualifications influenced the implementation of CBC. This neutral position was explained by the fact that almost all teachers (97.8%) had attended in-service training on CBC methodology with 64.6 percent having attended between two to five trainings. Teachers felt that besides academic and professional qualifications, years of experience and

continuous professional development play a big role on how teachers implemented curriculum.

5.2.2 Influence of teachers' pedagogical content knowledge on the implementation of CBC

From the findings, majority of the teachers (87.1%) rated themselves as having sufficient content knowledge to implement CBC. This finding was corroborated by the headteachers who said that they had no doubts that their teachers would effectively implement the new curriculum. This is very vital as same percentage (87.1%) of the teachers were of the opinion that content knowledge influences how teachers engage with learners, influences what they learn and how well teachers can use instructional materials; thereby curriculum implementation.

The results also indicate that majority of the teachers (80.71%) were of the view that they were well equipped with pedagogical skills required to facilitate implementation of CBC and they could use different CBC teaching and learning methods. However, a lower percentage (53.8%) was confident that they could vary their teaching methods to suit the learning styles of the learners. Overall, 90.8 percent of the teachers agreed that pedagogical knowledge influences implementation of the CBC. Headteachers equally agreed and said that how teachers handle content inside of a classroom is key to implementation of CBC.

5.2.3 Influence of teachers' technological skills and CBC implementation

From the findings, only a small percentage of teachers (8.0%) said they had limited exposure to ICT tools and knowledge of using them. This was still surprising given that Teachers Service Commission and Ministry of Education carried out several ICT trainings for teachers before and during the implementation of CBC. The teachers rated their perceived ICT knowledge and skill as moderate, $M = 3.18$; $SD = 1.14$. Overall, it was clear that teachers perceived ICT efficacy was low ($M = 2.98$; $SD = 1.63$).

When actual use of ICT in class was measured, the results were similar. Most teachers were not using technology to deliver content most of the time ($M = 2.21$; $S.D = 1.55$). However, an overwhelming majority (84.69%) was of the opinion that integration of ICT into teaching and learning was very important. It influences implementation of CBC positively as the curriculum is digitally-based. Headteachers too agreed that most teachers were not using technology to deliver their lessons. They attributed this to lack of ICT facilities in the schools. This implies that facilitation and delivery of the curriculum will be derailed due to lack of teachers' exposure to ICT and inadequate technological skills..

5.2.4 Influence of teachers' perceptions and CBC implementation

The findings revealed that almost all (98.6%) of the teachers held positive perceptions towards implementation of CBC. A high percentage (78.3%) of

teachers was prepared to teach the new curriculum. The findings also indicated that 81.15 percent felt that the curriculum was child friendly, therefore, interesting to the learner and the teacher. Another 83.05 percent of teachers perceived the learning activities and tasks as engaging and interesting. They perceived CBC as a better system of education or curriculum if it is well supported and were ready to implement the system.

The pupils also said that the learning activities were interesting and they were happy to be taught by their teachers. Pupils said teachers made sure they understood the content taught, marked their class work and homework. These positive attitude of teachers towards CBC were corroborated by the headteachers. Head teachers remarked that teachers in their schools were not complaining about CBC implementation. Teachers were happy that learners had adequate textbooks and this made teaching relaxed. Headteachers also observed that examinations were relaxed as they promoted cooperation instead of completion.

5.3 Conclusions of the Study

From the findings of the study, it was concluded that teacher related factors influence implementation of competency-based curriculum. Teachers had sufficient educational levels and vast experience in teaching. Most of the lower primary school teacher were prepared to implement CBC in terms of content knowledge and pedagogical knowledge. In addition, teachers held positive

perceptions towards implementation of CBC. However, teachers were inadequate in technological knowledge and skills. This is a great area of concern because teachers are expected to integrate ICT across all subjects in the CBC. Teacher related factors such as professional and academic qualifications, experience, pedagogical content knowledge, technological skills and teacher perceptions are requisite for effective implementation of CBC.

5.4 Recommendations from the Study

From the study findings, the following recommendations were made:

1. It is recommended that the Ministry of Education in conjunction with the Kenya Institute of Curriculum Development and Teachers Service Commission should continue training teachers on ICT knowledge and skills that are very critical to implementation of the new curriculum.
2. Since Subject content knowledge involves mainly what the teachers teach and what the learners learn, it is crucial that teachers be fully trained and in-serviced to effectively engage with the learners during the delivery of classroom instructions. Therefore, the Ministry of Education should come up with a schedule of in-service training programmes to ensure continuous professional development of teachers.

Competency-based curriculum is a new concept in Kenya and teachers need re-skilling for flexibility in adapting the new teaching methodologies and structure of the content.

3. Young energetic teachers who are newly recruited should be encouraged to teach at lower classes. Studies show that teachers are most innovative in the first two years of employment.

5.5 Suggestions for Further Research

The study investigated a limited number of determinants to establish lower primary school teachers' preparedness towards implementing CBC in Luanda Sub County, Vihiga County Kenya.

1. Given that this study was conducted in the lower primary school level only, another similar study should be conducted in Middle School level where the rolling out of the curriculum has started to identify gaps.
2. A similar study can be replicated in other parts of the country to corroborate this study.
3. Studies can be conducted on other issues like parental support on CBC implementation.

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APPENDICES

APPENDIX 1: LETTER OF INTRODUCTION

University of Nairobi
College of Education and External Studies
P.O. Box 92-00
KIKUYU

To
The Head teacher
..... Primary School

Dear Sir/Madam

REF: PERMISSION TO COLLECT DATA IN YOUR SCHOOL

I am a Masters of Education student from the University of Nairobi currently carrying out research. The purpose of this research is to find out the views of teachers and learners on the teacher related factors influencing the CBC implementation in Luanda Sub-county, to help me complete my research.

Any assistance accorded will be highly appreciated.

Silas Obuhatsa David

E55/10324/2018

APPENDIX II: QUESTIONNAIRE FOR TEACHERS

Instructions

This questionnaire seeks information on influence of teacher –related factors on the implementation of the CBC at lower primary schools in Luanda sub-county, Vihiga County, Kenya. Your careful, complete and honest responses will assist in collecting valid data. The information you give will be used for research purpose only and will not reflect on you as an individual or as a school.

The questionnaire has been designed to enable you answer the items quickly and easily. In answering this questionnaire, bear in mind that this is not a test; the only right answers to the questions are those that best explain your situation or express your views. Please answer frankly. Where choices are given; tick the option that matches your answer or write a figure or a statement as instructed.

Section A: Demographic Information

1. What is your gender? Male Female
2. Please indicate your age bracket in years.
Below 25 26 – 35 36 – 45 46 – 55 Over 55

Section B: Teacher Experience, Academic and Professional Qualifications

3. For how long have you been in the teaching service?
Below 5 years 6 – 10 years 11 – 15 years 16 – 20 years 21 and over
4. What is your highest level of education?
Primary Secondary College University
5. Please indicate your highest level of professional qualification.
P1 S1 Dip. in Edu. B.Ed M.Ed Other _____
6. Have you been trained on CBC implementation?
Yes No
7. If ‘yes’, how many times?
One Two Three Four Five More than five
8. Who selects the teachers to attend training on CBC in your school?
Head teacher School Board TSC
9. Please tick the topics you think were most important during CBC training.

Most important areas covered during CBC training	Tick
Core competencies	
Schemes of work	
Learner assessment using rubrics and portfolios	
Subject content	
Digital literacy	
Integrating pertinent and contemporary issues, values and community service	
Lesson plans	

10. Which areas do you feel you need more training?
(Specify)

11. What are some of the challenges experienced during training?
(Explain)

12. What are some of the ways of solving these problems?

(Specify)

To what extent do you agree that teacher qualifications influence CBC implementation? Use the scale: 5 = Strongly agree; 4 = Agree; 3 = Moderately disagree; 2 = Disagree; 1 = Strongly disagree.

Statement	5	4	3	2	1
Teachers' academic qualifications influence their ability to interpret and implement CBC					
Teachers' professional qualifications influence their ability to interpret and implement CBC					
Teachers' experience influence their ability to interpret and implement CBC					

Section C: Teachers Pedagogical Knowledge

14. What would you say about CBC compared to 8.4.4?

(Explain)

15. Are you sure that CBC caters for all learners’ needs?

(Explain)

16. What is one good thing with CBC that you have realized?

(Explain)

18. What are some of the challenges in CBC implementation?

(Explain)

19. Is your school ready to implement CBC fully? Yes [] No [] Not sure []

20. To what extent do you agree that you have sufficient levels of pedagogical knowledge? Use the scale: 3 = Agree; 2 = Moderately agree; 1 = Disagree

Statement	3	2	1
I can adapt my teaching style to different pupils			
I can use a wide range of teaching approaches in a classroom: collaborative learning, lecture method, class discussions, modeling			
Inquiry-guided instruction, experiential learning, problem-based learning			
I know how to select effective teaching/learning approaches to guide pupils thinking and learning			

21. In your opinion, to what extent do teacher pedagogical knowledge influence the implementation of CBC?

To a great extent [] To some extent [] To a small extent []

Section D: Teacher Content Knowledge

22. Using a scale of 1 to 3, indicate the extent to which you agree that you have adequate knowledge in your teaching areas to implement the CBC; 3 = Agree; 2 = Moderately agree; 1 = Disagree

Statement	3	2	1
I have sufficient knowledge in my teaching subjects of CBC			
I have various ways and strategies of developing my understanding of my teaching subjects in line with the CBC.			
I can adapt my teaching content based on students current understanding of CBC			

23. To what extent do you agree that content knowledge influence how teachers engage with learners when implementing the CBC. Use the following rating scale: 3 = Agree; 2 = Neutral; 1 = Disagree.

Statement	Agree	Neutral	Disagree
Teachers subject knowledge influence how teachers engage with learners			

Section E: Teachers ICT Knowledge and Skills

24. Do you have computers and/or laptops in your school for use with students?

Yes [] No []

25. To what extent has your school exposed you to ICT tool for use with students?

To a great extent [] To some extent [] To a small extent []

26. Have you trained in ICT? Yes [] No []

27. Do you use ICT in the classroom? Yes [] No []

28. How effectively can you use ICT in the classroom?
(Explain)

29. Do you face challenges when using ICT tools in the classroom?

(Explain)

30. How can you overcome some of these challenges?

(Explain)

31. To what extent do you agree with the following statements relating to your perceived use of ICT knowledge and skills in the classroom? Use the following scale: 5 = Strongly agree; 4 = Agree; 3 = Moderately disagree; 2 = Disagree; 1 = Strongly disagree.

Statement	5	4	3	2	1
I feel well prepared to manage the challenges that the integration of ICT brings in the teaching of the CBC competencies in the classroom					
I think I have the pedagogical knowledge required to use ICT-based instructional-learning activities in my class					
I believe I have the technical knowledge and skills required to use ICT in my class					
I can use educational software regarding my subjects available at my school					

32. To what extent do you use ICT in the implementation of CBC in your teaching? Use the following scale: 5 = Strongly agree; 4 = Agree; 3 = Moderately disagree; 2 = Disagree; 1 = Strongly disagree

Statement	5	4	3	2	1
I use ICT to prepare and deliver my lessons					
I make use of a projector to present my lessons in class					

I use ICT in my class work with my pupils					
I assign my pupils tasks and activities that require using ICT and internet					

Section F: Teachers' Perception on Implementation of CBC

33. Do you think CBC implementation is successful in Kenya? Yes [] No []
 (Explain)

34. As a teacher what is your feeling on CBC implementation?

(Explain).....

35. Do you think that teachers are ready to implement CBC and why?

(Explain)

36. The following statements capture your perceptions on the implementation of CBC. Use the given scale to approximate your feelings towards CBC implementation: 5 = strongly agree; 4 = agree; 3 = moderately agree; 2 = disagree; and 1 = strongly

Statement	5	4	3	2	1
Assessment methods are child friendly					
I enjoy preparing pupils portfolios					
Use of digital literacy is interesting					
CBC content is adequate					
Activities are engaging and interesting					
CBC preparations is time consuming					

Thank you for your cooperation

APPENDIX III: INTERVIEW GUIDE FOR HEAD TEACHERS

Introduction

This is a interview is to familiarize myself with teacher related factors that influence implementation of CBC implementation in your school. It is not an evaluation of you as the school. I would like to get a realistic picture of the factors. To achieve this, I have a number of specific questions that I would like us to discuss.

Respondent:	Gender:
Date.....	School:
Name of Data Collector:	

1. Do you have any training on CBC implementation?
2. Are all the teachers in your school trained on CBC implementation?
3. What are some of the facing CBC implementation in your school?
4. Do you think teachers fully understand the CBC concept? (*Probe for reasons*)
5. In your view, how would you describe the pedagogical content knowledge of the teachers handling pupils at lower primary in your school?
6. Are teachers happy about the government decision to implement a new curriculum? (*Probe on teachers' perceptions*)
7. How would you describe teachers knowledge and use of ICT in teaching and learning?

Thanks for your time

APPENDIX IV: FGD FOR GRADE 3 PUPILS

Introduction by facilitator





Hello, my name is [...]. Thank you for coming for this discussion. I would like to hear from you how you have benefited from the CBC curricular activities. During this FGD, I will facilitate a conversation about the activities you and your teachers perform in class. I hope you will be comfortable speaking honestly and sharing your ideas with me. Please, I would like to tape the discussion so that I capture all your thoughts, opinions, and ideas. No names will be attached to the discussions and the tapes will be destroyed as soon as they are transcribed. This discussion will last about 30 minutes. Do you have any questions before we start?

School Name: _____

1. Do you like your teachers? Why do you like them?
2. Do your teachers assist you when you fail to understand something in class? Who else assists you?
3. Are you happy about the activities you carry out with your teachers inside and outside the classroom?
4. Do you like homework? Why do you like or dislike homework?
5. Do you do homework alone at home?
6. Who assists with homework at home? Do they like helping you?

Thank you for your cooperation

RESEARCH PERMIT

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