



**BINDURA UNIVERSITY OF SCIENCE EDUCATION
FACULTY OF SCIENCE EDUCATION
DEPARTMENT OF CURRICULUM AND EDUCATIONAL MANAGEMENT STUDIES**

**IMPLEMENTATION OF COMPETENCE-BASED EDUCATION IN PRIMARY
SCHOOL TEACHING AND LEARNING ACTIVITIES: EXPERIENCES FROM THE
MAHLANGATSHA CLUSTER**

BY

**DLAMINI CYPRIAN
B226234B**

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DECLARATION

I, Dlamini Cyprian, hereby declared that, except for references, to other people's work which have been acknowledged, this project is a result of my research and has neither in part nor in whole been presented in the educational programme.

Signed: *csdlamini*

Date: 30.07.2024

(Student)

This research work was undertaken under the supervision of Dr. P. Chikuvadze.

Signed:



Date: 06.08.24

(Supervisor)

Department Chairperson:



Date: 11.10.2024

(Dr. Y. Mudavanhu)

DEDICATION

I dedicate this study to my mother Rejoice and my lovely family who taught me the essence of the pursuit for knowledge and wisdom as well as striving for achieving. Without this I would not be the person I am today.

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Firstly, I would like to forward thanks to the Almighty God for His goodness throughout my study at the University. Surely, He has led me thus far! Glory is to His name!

Secondly, conducting a research study is never an easy task, it is collaborative effort of many people whether mentioned by name or not. I cannot take the ultimate credit in this work, as it is a shared responsibility. I therefore want to thank all of the people whose names and titles are not specifically mentioned for their invaluable support in both word and actions. I am grateful to the participants who took part in the research as their contributions were crucial in gathering the data needed for this study. The support you gave was extremely humbling. *Ngiyabonga kakhulu!*

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ABSTRACT

This study sought to gain insight into teachers' experiences concerning the implementation of Competency-Based Education (CBE) in primary schools' teaching and learning activities in the targeted cluster. The study was rooted in pragmatist paradigm and mixed research method approach. For this study 24 respondents were selected through stratified random technique. Data was collected through an interview and semi-structured questionnaire. In analysing quantitative data frequencies and percentages were used and qualitative data was analysed according to emerging themes. From the analysed and interpreted data, it was revealed that seminars, peer tutoring, and workshops were commonly used approaches to prepare teachers for the implementation of CBE. The results showed that student-centred methods like (problem-solving, inquiry-based learning, project-based learning, design-based learning, etc.) were at the centre of CBE curriculum implementation in primary school teaching and learning. In addition, the results indicated that numerous challenges were encountered by teachers when implementing CBE in primary schools. The respondents highlighted some of the strategies that can be used to reduce the impact of the challenges on the implementation of CBE in teaching and learning. Based on the results it can be concluded that to a larger extent teacher in the selected cluster were facilitating the implementation of CBE in teaching and learning activities. This was so despite the existence of numerous challenges that were encountered in the process. Based on the conclusion it can be recommended that continuous teachers' professional development to enhance their competencies in the implementation of CBE in teaching and learning activities.

TABLE OF CONTENTS

Declaration	i
Dedication	ii
Acknowledgements	iii
Abstract	iv
Table of contents	v
List of tables	viii
List of appendices	ix

Chapter 1: Background and its setting

1.1 Introduction	1
1.2 Background of the study	2
1.3 Statement of the problem	2
1.4 Research objectives	3
1.5 Research questions	4
1.6 Assumptions of the study	4
1.7 Significance of the study	5
1.8 Delimitation of the study	7
1.9 Limitations of the study	7
1.10 Definition of key terms	8
1.11 Chapter's layout	9
1.12 Chapter summary	9

Chapter 2: Review of Related Literature

2.1 Introduction	10
2.2 Theoretical framework	10
2.3 Competency based education as a concept	11

2.4 Approaches used to prepare teachers for the implementation of CBE	13
2.4.1 Seminars and workshops	13
2.4.2 Pre-service training for teachers	14
2.4.3 In-service training and refresher courses	15
2.4.4 Creation of PLCs	15
2.4.5 Alignment of pre-service programme	16
2.5 Methods used by teachers in implementing CBE	17
2.5.1 Design-based learning	18
2.5.2 Project- based learning	
18 2.5.3 Action research	
19 2.5.4 Differentiated learning	
19 2.5.5 Peer tutoring	
20 2.5.6 Interaction and sharing	
20 2.6 Challenges encountered by teachers in implementing CBE	
21 2.6.1 Lack of resources	
21 2.6.2 Teacher training support	
21 2.6.3 Teacher resistance to change	
22 2.6.4 Overcrowded classrooms	
22 2.6.5 Lack of students motivation	
23 2.7 Chapter Summary	
24	

Chapter 3: Research Methodology

3.1 Introduction	25
3.2 Research paradigm	25
3.3 Research approach	26
3.4 Sample and sampling procedure	27
3.5 Research instruments	28
3.6 Data collection procedure	29
3.7 Data analysis	30
3.8 Validity and reliability	31
3.9 Ethical issues	32
3.10 Chapter Summary	33

Chapter 4: Data analysis and interpretation

4.1 Introduction	34
4.2 Characteristics of the respondent	34
4.3 Approaches used to prepare teachers for the implementation of CBE in teaching and learning activities	36
4.3.1 <i>Provision of professional development opportunities</i>	36
4.3.2 <i>Organizing seminars and workshops</i>	37
4.3.3 <i>Provision of opportunities to partner with other professionals</i>	40
4.3.4 <i>Provision of pre-service training on CBE in colleges and universities</i>	41
4.3.5 <i>Alignment of pre-service training with the CBE approach</i>	42
4.4 Methods used by teachers in implementing CBE in primary school teaching and learning activities	42
4.4.1 <i>Providing learners with authentic tasks</i>	43
4.4.2 <i>Giving learners project work that will trigger learners' problem solving skills</i>	44
4.4.3 <i>Conducting action research</i>	45
4.4.4 <i>Preparing personalised or individualised learning plans</i>	47
4.4.5 <i>Availing opportunities for learners to discuss in groups</i>	48
4.4.6 <i>Allowing learners to often work together and share knowledge with each other</i>	49
4.5 Challenges encountered by teachers in implementing CBE in teaching and learning	50
4.5.1 <i>Lack of teaching and learning resources</i>	51
4.5.2 <i>Lack of teacher training support</i>	52
4.5.3 <i>Lack of support from administration and other educational partners</i>	52
4.5.4 <i>Personal resistance to change to CBE approach</i>	53
4.5.5 <i>Lack of clear understanding of what CBE entails</i>	54
4.5.6 <i>Overcrowded classrooms</i>	55
4.5.7 <i>Lack of students' motivation</i>	56
4.5.8 <i>Being overworked</i>	57
4.5.9 <i>Failure to draw a line between OBE and CBE</i>	57
4.5.10 <i>Lack of professional learning communities within schools and beyond</i>	58
4.6 Chapter summary	59

Chapter 5: Summary, conclusion and recommendations

5.1 Introduction	60
5.2 Summary of the project	60
5.3 Conclusion	61
5.4 Recommendations	62
5.5 Areas of further research	61
5.6 Chapter summary	62
References	63
Appendices	73

LIST OF TABLES

Table 3.1: Distribution of selected respondents according to Grades in the targeted schools	27
Table 4.1: Demographic characteristics of the selected respondents	35
Table 4.2: Respondents views on the approaches used in preparing teachers for the implementation of CBE	37
Table 4.3: Methods used in implementing CBE	43
Table 4.4: Respondents' views on the challenges that are encountered in CBE implementation	50

LIST OF APPENDICES

Appendix 1: Introductory letter from Bindura University of Science Education, Department of Curriculum & Educational Management Studies	74
Appendix 2: Request and Approval letters to the Ministry of Education and Training	75
Appendix 3: Approval letter from the Ministry of Education and Training	76
Appendix 4: Consent form for respondent	78
Appendix 5: Semi- structured questionnaire for selected teachers	79
Appendix 6: Interview Guide for selected teachers	83

CHAPTER 1

PROBLEM AND ITS SETTING

1.1 Introduction

In this chapter the problem was put into its context through the articulation of the following issues: background to the study, statement of the problem, research objectives, research questions, assumptions of the study, significance of the study, delimitation of the study, limitations of the study, definition of terms, chapter's layouts and chapter' summary.

1.2 Background to the study

Competency-Based Education (CBE) has gained significant attention in recent years as a promising approach to improving student learning outcomes (Marzano, 2014). This educational framework focuses on the mastery of specific skills and knowledge, rather than traditional measures such as grades or seat time (Zeiger, 2018). It has been acknowledged by different scholars that, the CBE is instrumental in helping students to increase the mastery of 21st century skills, knowledge and developing of self confidence in problem solving (Domician, 2018; Shemwelekwa, 2013; Nara, 2011; Timothy, 2011; Dlamini et al., 2018); Kafyulilo et al., 2012; Komba & Mwandaji, 2015). In the context of primary education, CBE has the potential to better prepare students for the demands of the 21st century workforce by emphasizing real-world skills and competencies.

The implementation of CBE in primary schools requires a shift in teaching and learning practices, as educators must adapt their instructional strategies to align with the goals of the competency-based approach (Brown & Williams, 2019). According to Smith & Jones (2018), the implementation of this new curriculum in numerous countries across the world has been met with excitement, concerns and challenges of course. One of the concerns is teachers' readiness and competency in spearheading this new educational reform (Munna & Kalam, 2021). While there have been extensive studies on the implementation of CBE in various contexts globally, there is a lack of research on the experiences of teachers in effectively implementing CBE in the context of Eswatini (UNESCO, 2021).

In the United States of America, CBE has been implemented in various higher education institutions, K-12 schools, and workforce development programmes. Research by Means et al. (2017) found that teachers in the US face challenges in transitioning from traditional teaching methods to a CBE, including the need for professional development, changes in assessment practices, and the adoption of new pedagogical strategies. Additionally, Martinez et al (2016) highlighted the importance of strong leadership and support from school administrators in successfully implementing CBE.

In Europe, CBE has also been explored as a means to improve educational outcomes and increase student engagement (Jones, 2017). A study by Gogoulos et al (2016) in Greece found that teachers play a crucial role in the implementation of CBE, as they must design and assess competency-based curriculum and provide meaningful feedback to students. Additionally, Volckaert et al (2018) emphasized the importance of collaborative professional development opportunities for teachers to effectively implement CBE.

In Asia, CBE has been implemented in countries such as Singapore and Malaysia as a means to improve workforce readiness and close skills gaps. Research by Wong et al. (2017) in Singapore highlighted the need for teachers to shift from a focus on content delivery to the development of skills and competencies. Similarly, Abdul Rahman et al (2019) found that teachers face challenges in adapting to new assessment practices and ensuring alignment with industry needs. In Africa, there is a growing interest in CBE as a means to address educational inequities and improve student outcomes (Mwanza, 2017). Adebajji et al (2018) in a study in Nigeria highlighted the need for teachers to undergo professional development and support in order to effectively implement competency-based approaches. Additionally, Ndungu et al (2019) in a study in Kenya emphasized the need for strong government policies and investment in teacher training to support the successful implementation of CBE.

In Southern Africa, there was limited studies on the implementation of CBE and the experiences of teachers in countries such as Eswatini (Dlamini & Dlamini, 2020). However, Findings from a study by World Bank (2017) highlighted the benefits that CBE can bring to Southern African nations. However, that called for certain challenges and obstacles to be addressed by the countries in the region in order to realize the potential benefits of CBE to these countries. Given the unique cultural, social, and economic context of Eswatini, it is important to explore how

teachers in the country and the Southern African region are experiencing the transition to a competency-based approach (UNESCO, 2021). It is against this background that this study sought to gain insights into issues concerning the implementation of CBE in primary school teaching and learning activities from the teachers' view point.

1.3 Statement of the problem

The Eswatini National Curriculum Framework (2018) stipulated the goals and the direction that the education sector should take to promote development of learning outcomes that will contribute to greater socio-economic achievement (Ministry of Education, 2019). These include: competencies in creativity and innovation, critical thinking, communication, numeracy, personal and social values, and competencies in technological literacy (Dlamini et al., 2020). This encouraged and prompted the state government to recognize the need to invest in the development of the CBE which promised to meet the new demands in the curriculum framework (World Bank, 2019). The effective and successful implementation of the CBE in Eswatini primary schools depends on the support and buy-in of teachers (Yusof et al., 2017). However, concerns have been raised concerning the extent to which primary school teachers were equipped to facilitate learning activities guided by the CBE pedagogy. It was therefore in this context that this study sought to contribute towards the closure of this research gap guided by the following main objective: To establish the extent to which teachers are facilitating the implementation of CBE in primary school teaching and learning.

1.4 Research objectives

From the above main research objective, the following sub-objectives were derived:

1. To identify the approaches used to prepare teachers for the implementation of CBE in primary school teaching and learning.
2. To establish the methods used by teachers in implementing CBE in primary school teaching and learning.
3. To establish how teachers are utilising these methods in implementing CBE in primary school teaching and learning
4. To identify challenges encountered by teachers when implementing CBE in primary schools.

5. To identify strategies that can be used to reduce the influence of the encountered challenges in primary school teaching and learning.

1.5 Research questions

The study was guided by the following questions:

1. What are the approaches that are used to prepare teachers for the implementation of CBE in primary school teaching and learning?
2. What methods do teachers use in implementing CBE in primary school teaching and learning?
3. How teachers are utilising these methods in implementing CBE in primary school teaching and learning?
4. What challenges encountered by teachers when implementing CBE in primary school teaching and learning?
5. What strategies that can be used to reduce the influence of the encountered challenges in primary school teaching and learning?

1.6 Assumptions of the Study

The study was based on the following assumptions:

1.6.1 Teachers are key stakeholders in the implementation of CBE

This assumption posited that teachers played a crucial role in the effective implementation of competency-based education. Their understanding, commitment, and buy-in to the new approach would determine its success or failure in the classroom

1.6.2 CBE leads to improved student outcomes

It was assumed that implementing competency-based education appropriately would result in improved students' learning outcomes, including higher achievement levels, increased engagement, and better retention rates.

1.6.3 Teachers' experiences with CBE are influenced by their training and professional development

This assumption suggested that teachers' previous training and professional development experiences shaped their perceptions and experiences with competency-based education. Teachers who had received adequate training and support were more likely to embrace the new approach.

1.6.4 CBE requires a shift in pedagogical practices

This assumption highlighted the need for teachers to shift their pedagogical practices from traditional, content-based approaches to more student-centred and competency-focused methods. This shift required significant changes in teaching techniques, assessment strategies, and classroom management.

1.6.5 Implementation challenges may arise during the transition to CBE

It was assumed that implementation of competency-based education encountered various challenges, such as resistance from teachers, lack of resources, administrative barriers, and cultural differences. Addressing these challenges was crucial for the successful implementation of competency-based education in primary schools' teaching and learning activities.

1.6.6 The respondents would acknowledge the necessity of the study and provide accurate and reliable information.

The respondents in this study were practising teachers who were teaching at primary school level where the CBE is being rolled out. Therefore, it was assumed that the respondents saw the need for this study and provided objective information that was resourceful in this research.

1.7 Significance of the study

The findings of the study were likely to benefit the following:

1.7.1 Policy Makers

For policy makers, the study provided valuable insights into the challenges and opportunities of implementing CBE in schools, which may inform future policy decisions related to curriculum

development and teacher training. They could use the findings to inform educational policies and initiatives aimed at promoting CBE and improving overall student outcomes.

1.7.2 Teachers

Teachers played a crucial role in successful implementation of CBE in primary schools. This study on the implementation of CBE would provide teachers with valuable insights into effective teaching strategies and assessment methods that align with the principles of CBE. By implementing CBE correctly in their classrooms, teachers could better prepare their students for success in the 21st century workforce. Also, for teachers, the study offered practical recommendations for improving the implementation of CBE in the classroom, and helped to identify areas where additional support or resources were needed.

1.7.3 Curriculum developers

Curriculum developers were another group that stood to benefit from the findings of this study. By understanding teachers' experiences and perspectives, curriculum workers would develop more effective training programmes and resources to support teachers in implementing CBE. This knowledge could be used to inform the development of curriculum materials and assessments that are aligned with the goals of CBE.

1.7.4 Students

The students were perhaps the most important beneficiaries of this study. For students, the study provided an insight into how CBE was being implemented in their schools, and helped to identify areas where improvements were needed to enhance students learning outcomes. By understanding teachers' experiences and challenges teachers encounter, educational administrators could give relevant support to educators to improve their teaching. Thus, students would benefit from a more effective and engaging learning environment that promoted the development of key competencies and skills.

1.7.5 Bindura University

As the university guiding this study, Bindura University would also benefit from this study. Since this institution also specialises in teacher training programmes, the university could use findings from the study to better prepare future teachers to be effective educators in

understanding and implementing the CBE curriculum. This could help enhance the university's reputation as a leader in educational research, to attract top students who were interested in exploring new approaches to teaching and learning.

1.7.6 Researcher

The researcher also stood to benefit from the study. By investigating the implementation of CBE in teaching and learning, the researcher was also able to contribute in the growing body of knowledge on effective implementation of this curriculum approach. As a teacher, the researcher could adopt and embrace insights from the study to enhance personal professional development and quality teaching and learning in the classroom.

1.8 Delimitations of the study

The study was confined to Mahlangatsha cluster schools, which consists of eight primary schools located in the remote area of Mahlangatsha in the Manzini Region of Eswatini. These schools have an estimated total of 2095 pupils and 104 teachers. Only selected teachers from these primary schools partook in the study. The study also focused only on the experiences of teachers in Mahlangatsha cluster schools leaving out other important stakeholders such as educational administrators, parents and students who also play a fundamental role in the implementation of CBE within the cluster. The study will further focus on the implementation of the CBE shutting out other important aspects such as the relevance of CBE materials provided, administrative role and parents' role in the CBE implementation process.

1.9 Limitations of the study

The study was limited to exploring teachers' experiences in CBE implementation in primary schools' teaching and learning activities. The study did not investigate the perspectives of other stakeholders, such as students, parents, curriculum designers, education managers and education policymakers, which limited the comprehensiveness of the findings. Also, the study ignored other vital aspects such as school characteristics and supervision which also played a crucial role in the curriculum implementation.

1.10 Definition of terms

The following terms are defined contextually:

1.10.1 Competence-Based Education

According to Muneja (2015), CBE is an educational approach that focuses on the mastery of specific skills and knowledge rather than time spent in classrooms. The CBE emphasis is on students demonstrating their competency in a particular subject or skill before progressing to the next level of learning. According to Eaton (2016), CBE is designed to ensure that students are prepared for success in college and the workforce by focusing on personalized learning and real-world applications of knowledge (Atibuni&Olema, 2017).

1.10.2 Teaching and learning activities

This refers to the strategies and methods used by educators to facilitate the acquisition of knowledge and skills by students through activities like group discussions, hands-on experiments, and technology-based learning (Govender, 2018). According to a study by Hmelo-Silver et al (2019), effective teaching and learning activities should be student-centred, interactive, and promote critical thinking and problem-solving skills.

1.10.3 Primary school cluster

According to Hunter (2018), it's a network of schools in a specific geographical area that share resources, expertise, and best practices to improve student outcomes. This collaboration allows schools to work together to address common challenges and implement innovative teaching strategies. Furthermore, Jackson (2020) defines a primary school cluster as a partnership between schools that allows for the sharing of resources, knowledge, and skills to enhance the quality of education provided to students. This collaboration can include joint professional development opportunities for teachers, shared curriculum resources, and collaborative assessment practices.

Based on these definitions, a comprehensive definition of a primary school cluster can be described as a network of primary schools that collaborate and share resources, expertise, and best practices to enhance the quality of education provided to students. This collaboration allows schools to work together to address common challenges, implement innovative teaching strategies, and support each other in achieving their educational goals.

1.11 Chapters layout

This study was organized into five chapters. The first chapter outlined the problem and its setting consisting of: the introduction, background of the study, statement of the problem, research objectives, research questions, significance of the study, delimitations of the study, limitation of the study and definition of terms or concepts. The second chapter contain the review of empirical literature related to the study. The third chapter outlines the research methodology which consists of: research design, research methods, sample size and sampling procedure, data generation procedure, data analysis, research integrity and ethical issues. The fourth chapter entails presentation, analysis, and discussion of research findings. The final chapter will present the summary of findings, conclusions and recommendations. After this information, a list of reference materials used will be presented as well as an appendix of other resources and tools utilized in collecting data for the study.

1.12 Chapter summary

In this chapter the background to the study and statement of the problem have been outlined and elaborated. Also included are the objectives of the study, research questions, the significance of the study and its delimitations and limitations. Finally, operational definitions of key terms used in the study are given. In the next chapter, the review of related literature will be presented.

CHAPTER 2

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter presents the literature related to this study. The first part presents the theoretical framework which contains these theories that inform the research: constructivism and social cognitive theories. The second part presents a critical review of empirical literature that revolves around the three objectives developed in chapter 1. This is followed by the summary of the chapter.

2.2 Theoretical framework

The study will be guided by the following educational theories:

2.2.1 Constructivist

Constructivist theory emphasizes the role of learners in constructing their own knowledge through active engagement with the environment (Tanner & Turner, 2018). It posits that learning is a social and collaborative process, with an emphasis on scaffolding and zone of proximal development (Vygotsky, 1978). One of the key proponents of constructivism is Lev Vygotsky, who developed the socio-cultural theory of development (Tanner & Turner, 2018). According to Kirschner et.al (2016) constructivism is relevant in educational research as it provides a framework for understanding how students can actively construct their own knowledge and meaning through interactions with teachers and peers (Vygotsky, 1978). In the context of CBE, constructivism is relevant as it promotes student-centred learning and collaboration among teachers and students which are also some of the hallmarks for CBE. In the study on the implementation of CBE in primary school teaching and learning activities, constructivism can help researchers understand how teachers' experiences are influenced by their interactions with students and the environment. By examining the role of scaffolding and zone of proximal development in promoting effective teaching practices, the study will provide insights into the benefits of adopting a constructivist approach strategy in teaching and learning in primary schools.

2.2.2 Social Cognitivist

Social cognitivist theory is a theory that emphasizes the role of observational learning and self-regulation in shaping individual behaviour (Pajares, 2017). It posits that learning is a result of modelling and reinforcement, with an emphasis on self-efficacy and self-regulation (Bandura, 1970). One of the key proponents of social cognitive theory is Albert Bandura, who conducted extensive research on the role of modelling in learning (Vygotsky, 2016). According to Schunk (2018) social cognitive theory is relevant in educational research as it provides a framework for understanding how teachers can serve as role models for students and promote self-regulation and self-efficacy. In the context of CBE, social cognitive theory can be used to encourage teachers to model effective teaching practices and promote a growth mindset among students.

In the study on the implementation of CBE in primary school teaching, social cognitive theory can help researchers understand how teachers' experiences are influenced by their beliefs in their own capabilities and the impact of their behaviours on students' learning (Zimmerman et al., 2014). By examining the role of modelling and self-regulation in promoting effective teaching practices, the study can provide insights into the importance of fostering self-efficacy and self-regulation among teachers and students.

2.3 Competency Based Education as a concept

According to Smith (2015), CBE is an innovative approach to teaching and learning that focuses on mastery of specific skills and knowledge rather than traditional seat time. CBE has its roots in the outcomes-based education movement of the 1980s and 1990s, which emphasized the importance of defining clear learning outcomes and assessing student achievement based on those outcomes (Smith, 2015; Jones, 2017); Achieve, 2016), CBE builds on this idea by focusing on the development of specific competencies or skills that are deemed essential for success in a particular field or discipline. This approach allows students to learn and progress at their own pace and demonstrate mastery of competencies through various assessments (Jones, 2017).

Further, Brown (2018) reported that in CBE students' progress through their coursework at their own pace, advancing only after demonstrating proficiency in each competency. This is evident because self-directed learning is one of the critical aspects of CBE which involves student taking ownership of their educational journey, setting goals and identifying the resources needed to

achieve success (Daugherty et al., 2015). Resources that the learners can use for independent learning include online learning and using diverse learning resources. Smith (2020) further alludes that this personalized approach CBE brings to education has gained popularity in recent years as educators seek to better meet the diverse needs of students and prepare them for success in the workforce. One of the key features of competency-based education is the use of clearly defined learning outcomes or competencies that serve as the basis for instruction and assessment (Darling-Hammond & Tucker, 2020).

These competencies are often broken down into smaller and more manageable units that students can work on independently at their own pace. In general, CBE programs typically offer students more flexibility in terms of when and where they can learn, allowing them to progress through the material at their own pace (Mueller & Oppermann, 2020). One of the key impacts of CBE is its ability to increase student engagement and motivation (Ngwenya, 2018). By allowing students to move at their own pace and focus on mastering specific skills, CBE can help students see the relevance of their education and feel a sense of accomplishment as they progress (UNDP, 2019). Research has further shown that students in CBE programs are more likely to stay in school, earn higher grades, and develop a deeper understanding of the material compared to traditional classroom settings (Staker & Horn, 2012).

There are several potential benefits of CBE which include the fact that CBE can help in ensuring that students are truly mastering the skills and knowledge they need to succeed in their chosen field (Sikoyo, 2018). This becomes evident when educators focus on specific competencies, and provide targeted support to students who may be struggling in certain areas (Ministry of Education and Training, 2016). Additionally, Dragoo and Barrows (2016) further points out that through its spiral approach to teaching, CBE can help to reduce the time and cost associated with traditional education models, as students can move through the materials more quickly as they will already have some prior knowledge or experience.

In order for CBE to be successful professional support and development for teachers is crucial as teachers play a crucial role in its implementation (Nyoni, 2018). It is on this premise that Mdluli (2020) reports that since CBE teachers are expected to: design and assess competencies that are aligned with learning objectives and standards, provide timely feedback to students, and offer support and guidance as needed, they need to be vigorously trained for that. Additionally, CBE

teachers must be able to adapt their instructional practices to meet the individual needs of students and create a supportive learning environment that fosters collaboration and critical thinking (Sturgis & Patrick, 2010). Furthermore, teachers must also be willing to embrace a shift in their role from ‘sage on the stage’ to ‘guide on the side’ (Orodho & Wawen, 2013).

In a CBE model, teachers serve as facilitators of learning rather than dispensers of knowledge, empowering students to take ownership of their education and develop the skills they need to succeed in the 21st century (Lench et al., 2015). This requires teachers to be flexible, open-minded, and willing to collaborate with colleagues to continuously improve their practice (Horn, 2015). Despite its potential benefits, CBE also has some limitations. One challenge is ensuring that all students have access to the resources and support they need to succeed in a CBE program (Brown et al., 2019). Additionally, some critics argue that CBE may not be suitable for all types of learners, particularly those who thrive in more traditional, lecture-based environments (Johnson & Smith, 2020). Smith and Jones (2018) further raised a concern on the focus on specific competencies which may lead to a narrowing of the curriculum and a lack of emphasis on critical thinking and creativity which are core aspects of the CBE curriculum.

2.4 Approaches used to prepare teachers for the implementation of CBE in teaching and learning activities

This section centres on the interrogation of some of the approaches that can be used in preparing teachers for the implementation of CBE in teaching and learning.

2.4.1 Seminars and workshops

Seminars and workshops are a common method of teacher preparation that involve a group of educators coming together to learn about a specific topic related to a current curriculum (Eaton, 2016). These seminars or workshops, according to Lescarbeau (2020), are typically led by experts in the field and provide teachers with the opportunity to engage in discussions, ask questions, and share best practices. Marcus (2017) attests that seminars and workshops equip teachers with skills, and strategies to effectively deliver personalized instruction and assessment through availing opportunities for teachers to engage in discussions and hands-on activities that focus on key elements of CBE, such as assessment, personalized learning plans, and student-centred instruction. For example, a study by Smith and Jones (2018) found that teachers who

participated in a seminar on CBE reported feeling more confident in their ability to implement competency-based practices in the classroom and valued the opportunity to collaborate with colleagues and share ideas during the seminars, which helped to enhance their understanding of CBE principles. A similar study by Smith et al (2018) conducted in the United States of America found that teachers who participated in CBE-focused seminars or workshops reported feeling more confident in their ability to implement personalized learning plans and competency-based assessments. In another similar study conducted in Finland, Kiviniemi et al (2019) examined the impact of seminars on teacher preparation for CBE and it was found that teachers who attended CBE-focused seminars reported a greater sense of autonomy and self-efficacy in implementing student-centred instruction and assessment strategies. This signifies that through seminars and workshops, teachers can learn best practices and innovative approaches to teaching and assessment that align with the principles of CBE (Ordonez, 2014). Teacher CBE empowerment through seminars and workshops according to Nodine and Johnstone (2015) reports an incredible improvement in student outcomes, such as increased engagement and academic achievement.

2.4.2 Pre-service training for teachers

Pre-service training is a critical component of teacher preparation that occurs before teachers enter the classroom (Hansen, 2018). Pre-service according to Traore and Sidibe (2019) typically involves the education and training provided to student teachers before they have undertaken any teaching programme. These trainings typically include coursework on CBE principles, as well as supervised teaching experiences that help prospective teachers to be most relevant for CBE implementation (Flowers, 2017). For example, a study by Johnson (2017) found that teachers who completed a pre-service training programme on CBE were more likely to use student-centred instructional strategies in their classrooms because of the experiential teaching experiments done in colleges and universities experimental schools. Johnson et.al (2018) postulate that experimental schools are actually practicing schools where some real –world teaching experiences can be performed. By incorporating CBE into teacher preparation programmes through these schools, students-teachers can develop the necessary skills and knowledge and innovations to effectively implement CBE in their classrooms since whatever is taught in theory is put into practice by carrying out experiments.

2.4.3 In-service training and refresher courses

In-service training is an ongoing professional development that occurs once teachers are already in the classroom and may take the form of workshops, seminars, or online courses (Sultan, 2016). In-service training equips practising teachers with skills and knowledge needed to effectively implement CBE in their classroom (Garcia et al., 2017). For example, a study by Smith et al (2020) found that teachers who participated in in-service training on CBE were most likely to adapt their teaching practices to meet the needs of individual students. By providing ongoing professional development and support, in-service education programmes can help teachers overcome challenges and improve their instructional practices which will consequently yield a successful CBE programme implementation in the classroom (Chandi, 2019). However, a study by Narendra (2022) have reported that in-service education programmes may not always be effective if they are not tailored to the specific needs of teachers or if they do not provide teachers with the necessary support to implement CBE. It was on these premises that Brown et al (2020); Sharma et al (2013) advocate the provision of refresher courses by in-service training education providers since refresher courses are designed to help teachers stay up-to-date on the latest developments in CBE and refresh their knowledge, skills and practices. A refresher course means an educational programme organized for refreshing the knowledge of an in-service teacher (Modine & Johnstone, 2015). According to Gallani (2023), these courses may be offered through online training and workshops, curriculum orientation courses or in person (through conferences and seminars), and typically cover a range of topics related to competency-based learning. A study by Johnson and Jones (2019) concluded that teachers who participated in a refresher course on CBE were more likely to incorporate technology into their instruction and embrace formulation of personalised learning plans for their students, and thus attaining maximum achievement.

2. 4.4 Creation of Professional Learning Communities

Creation of Professional Learning Communities (PLCs) for collaboration has been identified to be another transformational approach that can be used to prepare teachers for the implementation of the CBE (Hansen, 2018). PLC is a programme that can be used to improve school performance and student academic achievement through learning communities (Cheng & Pan, 2019; Domingo-Segovia et al., 2020). It is believed that PLC can effectively improve and

stimulate students' academic abilities by establishing a community or organisation that is able to facilitate more optimal student learning services (Luftia et al., 2022). According to Olivier and Huffman (2016), a professional learning community is a group of educators who come together to collaboratively improve their practices, schools have complex tasks as they are not only required to be able to produce quality students but are also required to provide a quality learning process and improve their teaching resources in order to be able to optimally facilitate learning for their students. PLC characteristics become the concept that researchers and stakeholders hold for improving the quality of schools (Lin et al., 2018; Liu, 2013). This can, for instance, happen through scheduling the school timetable such that all educators who teach CBE in a particular grade have a same period available every day to meet to share ideas on their experiences. Alternatively, Kimosop (2019) suggests that PLC time could be part of staff and department meetings so that CBE educators have sufficient opportunities to collaborate. In addition, Gross et al (2018) postulate that a PLC can be formed by clustering schools to provide teachers with the opportunity to collaborate and share best practices for implementing CBE. In these clusters, teachers can learn from each other and support one another in their efforts to improve CBE instructional practices. Additionally, Kisirkoi and Kamanga (2018) state that teachers who participate in school clusters for PLC discussions and training are likely to experiment new instructional approaches and engage in reflective practice that will advance their competencies in CBE implementation. Schell (2024) further highlights that working collaboratively in a professional learning community impacts the teachers in the group, their peers and students, yielding sufficient improvement in the culture of innovation and improvement among teachers.

2.4.5 Alignment of pre-service programmes

The next strategy is the alignment of pre-service teacher education programmes with the principles and practices of CBE (Wong, 2017). This concurs with Jones et al (2021), who postulated that teachers who receive training in CBE during their initial preparation stages are more likely to adopt the CBE methodology in their classrooms. Brodersen and Randel (2017) further stresses the importance of integrating CBE into teacher education programmes at colleges and universities to ensure that future educators are well-equipped to meet the demands of 21st-century learners. Witham and Plaman (2023) noted that educators reported a lack of coherence and alignment in implementation instigated by inconsistencies in pre-service training on the CBE

curriculum. The educators reported disparity in grading practices, intentional ongoing coaching and professional development, and networks to support the implementation of the curriculum. The implication of these findings is that teacher training institutions should collaborate with each other as well as curriculum designers to ensure that they complement each other in as far as CBE implementation is concerned (Hauser, 2016). Likewise, the development of curriculum syllabuses and instructional materials that align with the principles of CBE should be adopted governments to assist teachers to effectively implement the CBE curriculum (Ondimu, 2018). Knut (2019), further suggests that the government may supply textbooks and the curriculum, as providing for the learning space and paying the teachers to ensure a smooth implementation of the curriculum. Additionally, Omar (2014) reported the importance of providing teachers with access to high-quality instructional materials that support CBE for effective instruction and implementation.

2.5 Methods used by teachers in implementing CBE in teaching and learning activities

This section will critically examine several methods used by teachers when implementing CBE, including design-based learning, project-based learning, action research, differentiated learning, peer tutoring, and interaction and sharing.

2.5.1 Design- Based Learning

According to Ondimu (2018), design-based learning is a method that involves students working on real-world design problems in order to develop their problem-solving skills and creativity. According to Kim and Lee (2017), design-based learning can be an effective way to engage students in the CBE learning process and can help them develop the competencies necessary for success in the 21st century. For instance, Nzima (2016) suggests that in a design-based learning, students may be tasked with designing a new product or creating a solution to a real-world problem, allowing them to apply their knowledge and skills in a practical way. Mkonongwa (2018) further postulates that teachers can use design-based learning in CBE by creating authentic tasks that align with the competencies students are expected to master. According to Barab and Squire (2019), design-based learning further helps students develop a deeper understanding of content and improve their problem-solving skills. This type of learning can also help students develop a growth mindset, as they learn to embrace challenges and see failures as opportunities to learning. A study by Komba and Mwandaji (2015) reported that in a design-

based CBE classroom, students are often tasked with solving complex problems or completing challenging projects which assist students to see the relevance of their learning and gain a deeper understanding of how to apply their knowledge in practical situations. By engaging in this type of project, students are able to see how they can utilize their scenarios to create their own projects, in the process developing their creative thinking and a deeper understanding of the concepts they are studying (Rutayuga, 2014). This method is believed to promote critical thinking and problem-solving skills all of which are essential in a CBE framework another method commonly used in CBE (Remmy, 2017).

2.5.2 Project- Based Learning

In project-based learning, students work on extended, interdisciplinary projects that require them to apply their knowledge and skills to solve complex problems (Kavindi, 2014). Teachers use project-based learning in CBE by designing projects that align with the competencies students are expected to master. According to Thomas (2020), project-based learning can help students develop critical thinking skills and improve their ability to work collaboratively. This is alluded by a study by Boron (2016) who conducted a study on High tech high school in California which is known for its project-based approach to learning which found that the students develop strong problem-solving skills and a deep understanding of subject matter through their collaborative project-based work. Hmelo-Silver, Duncan, and Chinn (2017), postulates that development of critical thinking, collaboration, and communication skills, all of which are essential competencies to be developed by the CBE curriculum. A study by Bransford (2015) has further shown that students in PBL schools achieve high levels of competency in core academic subjects, as well as in 21st century skills such as collaboration, communication and creativity. Additionally, Scholars such as Hattie and Timberley (2017) emphasize the importance of formative assessment in PBL, as it allows students to receive feedback on their performance and make improvements before final assessment.

2.5.3 Action research

Action research is a method that involves teachers systematically studying and reflecting on their own teaching practices in order to improve student learning. Teachers use action research in CBE by collecting data on student performance and using that data to make informed decisions about instruction. According to Kemmis and McTaggart (2018), action research can help

teachers identify areas for improvement and make changes to their teaching practices based on evidence. Action research and problem-solving are methods that involve teachers and students working together to identify and solve problems in the classroom. According to Osterman and Kottkamp (2017), action research can help teachers improve their practice and enhance student learning by systematically studying and reflecting on their teaching methods. For example, a teacher may use action research to investigate why some students are struggling with a particular concept and develop strategies to help them succeed.

2.5.4 Differentiated learning

Differentiated learning, according to Sifuna and Obonyo (2019), is a method that involves teachers tailoring instruction to meet the individual needs of students. Johnson & Johnson (2014) argues that in CBE, teachers use differentiated learning to provide students with opportunities to work at their own pace and receive personalized support. According to Tomlinson (2018), differentiated learning can help students stay engaged and motivated to learn. Findings from a study by Tomlinson and Moon (2013) unveiled that differentiated learning can help ensure that all students have the opportunity to succeed by providing them with the support and resources they need to master the required competencies. For example, a teacher may use different instructional strategies, materials, or assessments to meet the diverse needs of their students.

Mwamakula (2023) adds that in a differentiated classroom students may be grouped according to their abilities, interests, or learning styles and teachers may use a variety of instructional strategies to meet the diverse needs of their students. According to Rutayuga (2014), when implementing CBE, students are given the opportunity to progress through the curriculum at their own pace, mastering specific competencies before moving on to more advanced material. This model of instruction is well-suited to differentiated learning, as it allows students to work at a pace that is comfortable for them and provides opportunities for personalized instruction and support (Hattie & Timberly, 2017). Sikoyo (2015) postulates that allowing students to work at their own pace and providing them with personalized instruction fosters a sense of ownership on students and agency in their learning leading to increased motivation, and a greater sense of accomplishment as students' progress through the curriculum.

2.5.5 Peer tutoring

Peer tutoring is a method that involves students working together to support each other's teaching (Harris, 2019). A more detailed description is given by Leung (2019) who defines it as a teaching strategy in which students are paired together in order to practise academic skills and master content. In this methodology, the students with higher academic skills serve as tutors. Cockerill, Craig and Thurston (2018) indicate that students can be effective teachers in different learning contexts; students can interact with their peers using direct speech at the same time as they share cultural and linguistic references. They can help their classmates to learn while they learn at the same time (Mkonto, 2018). According to Clarence (2018), teachers use peer tutoring in CBE by pairing students with different levels of mastery to help each other master competencies.

According to Batz et al., (2015), peer tutoring can help students develop a deeper understanding of content and improve their communication skills. Topping (2017) further reported that group discussions and peer tutoring can help students develop their communication, collaboration, and critical thinking skills by engaging in meaningful dialogue with their peers. For example, students may work in small groups to analyze a case study, discuss different perspectives, and come to a consensus on a solution (Fuchs et al., 2019). Bailey et al (2018) also notes that peer tutoring is an inclusive methodology in which all students get something in exchange for their interactions, so that all students benefit from its implementation.

2.5.6 Interaction and sharing

Interaction and sharing according to Miquel and Duran (2017) is a method that involves students collaborating with each other and sharing their knowledge and skills. Teachers use interaction and sharing in CBE by creating opportunities for students to work together on projects and discuss their learning to help them develop higher-order thinking skills and improve their ability to communicate effectively (Minesec, 2014). For example, teachers may facilitate class discussions on a particular CBE lesson topic, allowing students to share their thoughts and opinions with their peers. According to Asi et al (2015), social interaction plays a crucial role in cognitive development, as students learn from each other through discussion and collaboration.

Interaction and sharing methods also play a crucial role in CBE as they provide learners with the opportunity to engage actively with course materials and apply their knowledge in practical situations (William, 2014). For example, in a competency-based health and safety class, students may participate in simulated scenarios where they have to demonstrate their ability to assess and respond to various emergency situations. This hands-on approach, according to Harri (2019), allows students to develop their skills in realistic setting, preparing them for the challenges they will face in the workplace. In addition to hands-on activities, interaction and sharing methods can also include collaborative projects group discussions, and peer feedback (Khaleel & Mahshad, 2014). These methods encourage students to work together, share ideas, and learn from one another's perspectives (Clarence, 2018). For instance, in a competency- based coding course, students may collaborate on a project to design and implement a software application, and through this collaborative process. Korner and Hopf (2019) acknowledged that students can share their skills and knowledge, learn from one another's approaches, and receive feedback on their work.

2.6 Challenges encountered by teachers in implementing CBE in teaching and learning activities

This section explores some of the significant challenges encountered by teachers in implementing CBE in teaching and learning activities.

2.6.1 Lack of Resources

One of the main challenges faced by primary school teachers in primary schools in implementing competency-based education is the lack of resources (Scheopner et al., 2018). According to Akakandelwa (2017), many schools, particularly in Sub-Saharan African region lack basic teaching materials, such as textbooks and technology. A number of primary schools, according to Nyoni (2018), lack funding to provide an ongoing professional development for teachers that will equip them to create individualised learning plans for their students. Additionally, technology plays a crucial role in enabling personalised learning, however many primary schools, especially those in low- income communities, do not have the necessary funds to invest in the latest technology (Makunja, 2016). These according to Nsengimana (2020) make it difficult for teachers to design and implement competency-based curriculum, thus retarding its efficiency. Furthermore, Nyamwange (2018) argues that inadequate infrastructure, such as

classrooms and laboratories, hinders teachers from providing hands-on learning experiences to students.

2.6.2 Teacher training and support

Adera (2019) reported that many teachers have not received adequate professional development opportunities to transition to this new approach of teaching brought by CBE. This leads to confusion and frustration among teachers, resulting in ineffective implementation of CBE (Wamunyu, 2020). Additionally, Kiptarus (2020) emphasizes the importance of ongoing support and mentorship for teachers to successfully implement CBE as teachers who had had adequate training reported greater achievement in teaching the CBE curriculum. In another study, Lee and Kim (2019) identified challenges related to teacher training and support in implementing CBE in Indonesia. Makunja (2016) postulated that while currently employed teachers in Tanzania are ready to apply CBE, however, they lack the necessary knowledge and expertise because they have not attended training or a seminar to stay current on new curricula. In another study by Nambela (2016), teachers reported feeling unprepared to teach in a competency-based environment and expressed a need for more training and resources to help them effectively implement CBE. Additionally, Komba and Mwandaji (2015) reported teachers highlighting the importance of ongoing support and mentorship to help them navigate the challenges of implementing the CBE curriculum.

2.6.3 Teachers' resistance to change

The successful implementation of CBE is often impeded by teachers' resistance to change (Erickson & Noonoo, 2017). One of the key reasons for teachers' resistance to CBE, as reported by Schildkamp (2019) is the fear of the unknown triggered by the fact that traditional education systems have long been based on fixed curricula and standardized assessments, and the transition to a competency-based approach requires a significant paradigm shift. Breathnach (2017) postulates that teachers feel overwhelmed by the pedagogical approaches, assessment methods, and technology tools that come with CBE leading to resistance in adopting new practices, an attitude that can hinder the effective implementation of the CBE curriculum. Additionally, teachers' resistance to change can stem from a lack of professional development and training opportunities (Gervais, 2016).

According to Hamlaoui (2021), in order to effectively implement a competency-based education curriculum, teachers need to be provided with the necessary knowledge and skills to align their teaching practices with the principles of CBE. Without adequate training, teachers may struggle to understand the new competency-based assessment methods, differentiate instruction to meet individual student needs, and effectively integrate technology into their teaching (Hargreaves, 2021). This gap in professional development, as observed by Okello (2018), can create barriers to successful implementation of CBE in schools as teachers are frowning against this curriculum.

2.6.4 Overcrowded classrooms

According to Wilson (2018), large classroom sizes can be overwhelming for teachers when implementing competency-based education in primary schools in low-income countries. In a crowded classroom, teachers may struggle to identify and address the specific learning needs of each student (Hussein, 2023). Findings from a study by Mandukwini (2016) unveiled that large class sizes can make it difficult for teachers to differentiate instruction for students with varying levels of ability by limiting the amount of individual attention they can provide to each student. This is particularly problematic in competency-based education, where personalized instruction is essential for helping students develop the skills they need to succeed. Additionally, Momanyi and Rop (2019) alluded that in a crowded classroom, teachers may struggle to identify and address the specific learning needs of each student. This is rife in low-income countries where the challenges of large classroom sizes are often compounded by limited resources and unavailability of assistant teachers making it difficult for teachers to create a positive and supportive CBE learning (Hwande & Mpofu, 2017). Teachers reported feeling overwhelmed by the amount of content they needed to cover and struggled to find time to provide individualized instruction to students (McDonnell, 2014).

2.6.5 Lack of student motivation

There is a growing concern about the lack of students' motivation to learn in a CBE educational framework (Levine & Susan, 2019). A study by Smith et al (2020) examining the challenges faced by teachers in engaging students in a CBE curriculum reported that teachers face difficulties in motivating students to take ownership of their learning and demonstrate mastery of competencies. This was attributed to lack of external rewards like grades, praise from teachers

and peer recognition which were pre-dominant in traditional education (Stanford, 2023). This is exacerbated by the fact that CBE requires students to demonstrate mastery of specific competencies, unlike traditional education models that rely on grades and tests to measure progress and achievement (Sjoer & Meirink, 2016). Jones (2020) further postulates that one of the primary factors that can impact students' motivation in the CBE curriculum is the lack of clear goals and benchmarks.

However, without clear benchmarks and goals, students may struggle to understand what is expected of them and how they can progress in their learning (Mugabo et al., 2021). This lack of clarity according to (Mkonto, 2018) can lead to feelings of frustration and disengagement, ultimately impacting students' motivation to engage with the curriculum. Additionally, Lumonya (2020) indicated that teachers expressed concerns about the lack of student buy-in and engagement in the CBE curriculum more so because in a CBE model, students may not receive the same level of support and feedback, which can leave them feeling adrift and unsure of their progress. Hence without the necessary guidance and support, students may struggle to stay motivated and engaged with the curriculum, and will consequently develop feelings of isolation and disengagement (Gallani, 2023).

2.7 Chapter summary

This chapter has articulated on the theories that inform the study. It also gave an overview of the CBE. It further reviewed the empirical literature related to the study in relation to the approaches that are used in the implementation of CBE, the methods used by teachers in implementing the CBE in teaching and learning activities as well as the challenges that are encountered by teachers in implementing the CBE curriculum in their teaching and learning activities. The next chapter will discuss the methodology that the researcher will use in collecting and analyzing findings from this study.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter outlined the review of literature related to the study. In this chapter, articulates of the methodologies that were used in data generation are outlined and explicitly explained. These includes the following: research paradigm, research approach, sample and sampling procedure, research instruments, data collection procedure, and data analysis. It further outlines how research integrity will be observed throughout the study.

3.2 Research paradigm

A research paradigm can be defined as a set of beliefs, values, and assumptions that guide the research process (Babbie, 2016). This points to the assertion that the researcher's set of beliefs and values influence how they will perceive the environments and the world surrounding them, which in turn influence how knowledge is created and the process by which it is developed as the researcher undertakes the research investigation (Grossoehme (2014). Hargreaves and Fullan (2016) also alludes that a research paradigm provides researchers with a framework for understanding and interpreting the world, and helps them make decisions about how to conduct their research. According to Creswell (2012), there are several different research paradigms, each, with its own strengths and weaknesses. Hence, pragmatism paradigm is deemed relevant and strategically selected for this study.

Pragmatism as a research paradigm has gained significant attention in recent years due to its practical and flexible approach to research knowledge (Creswell, 2014). The pragmatists' paradigm is rooted in the philosophy that knowledge and reality are a product of beliefs and habits that are socially constructed (Yefimov, 2004). This paradigm is grounded on the belief that people develop subjective meanings of their experiences, an approach that gives full weight age to individual differences which make them unique in sense of identity and personality (Grover, 2015). This view helps us to understand different dimensions and facets of a single phenomenon (Denzin & Lincoln, 2014; Lincoln & Guba, 2011). Thus, it adheres to the view that only factual knowledge gained through observation, including measurement is valid and

reliable (Omari, 2016). Kothari (2014) further reports that in research methodology, pragmatism focuses on the importance of using a mix of qualitative and quantitative methods to address research questions and produce meaningful results. It was in the context of these facts about pragmatism as well as consideration of the main research objective that pragmatism is chosen as the research paradigm for this study. This is due to its openness to multiple ways of collecting and interpreting truths and reality and thus giving vast opportunities to triangulate data for valid and reliable conclusions.

3.3 Research approach

Creswell (2015) describes a research approach as the plans and procedures for research that spans the steps from broad assumptions to detailed methods of data collection, analysis and interpretation. Similarly, Grover (2015) explains a research approach as a strategy of inquiry that will be used in a research investigation. Kuma (2016) alludes that a research approach outlines the broad strategies that can be utilized in data collection, analysis and interpretation. The research approach that was used in this study is a mixed approach. The mixed research approach, also known as mixed methods approach, is a strategy that combines qualitative and quantitative research methods within a single study to provide a more comprehensive understanding of the research problem (Merriam & Tisdell, 2015). Creswell and Clark (2018), postulate that a mixed method approach involves collecting, analyzing, and interpreting both quantitative and qualitative data in a sequential or concurrent manner to gain a deeper understanding of the research question.

This mixed method approach was selected because it would enable the researcher to triangulate the findings, validate the results, and provide a more complete picture of the phenomenon under investigation (Garcia et al., 2018). Johnson and Onwuegbuzie (2017) attest that in education the mixed approach is the best as it allows the researcher to explore complex research questions that cannot be adequately addressed using only quantitative or qualitative methods. Kothari, 2014 cited by Kinyunyu (2020) further argues that by combining both types of data the researcher can gain a more nuanced understanding of the research problem. This consequently help them to develop more insightful interpretations of the results leading to the discovery of new patterns, relationships, and insights (Mumba & Alici, 2021). This cross-validation process will add

credibility to the research findings and increases the trustworthiness of the study (Johnson & Brown, 2019).

3.4 Sample and sampling procedure

A population is a group of individuals, objects or items, from which samples are taken for measurement (Kothari 2004). The target population in this study was 80 primary school teachers who were involved in the implementation of the CBE curriculum from the eight primary schools under the targeted cluster. The teachers were sampled from the grades where the CBE curriculum had been fully enrolled (Grade 1 to Grade 6). The purpose for which sampling was done was to secure a group that was representative of the whole population (Creswell, 2014). Maxwell (2012) define sampling as a process where a collection of people, events or behaviour is selected in conducting a study. The researcher selected teachers from a cluster of 8 schools to be included in the study. The study sampled 30% of the target population who participated in the study. According to Mugenda and Mugenda (2013), a sample size of 10-30 % of the target population is adequate for a study. Based on this view, the researcher randomly selected the participants that became the voice of all the targeted participants. In the context of the study, there were about 80 primary school teachers targeted by the study. Therefore, the study had a sample size of 24 teachers (see Table 3.1 below).

Table 3.1: Distribution of selected respondents according to Grades in the targeted schools (n= 24)

Grade	Target population	No. of Respondents Selected
1	12	4
2	12	4
3	10	3
4	10	3
5	18	5
6	18	5

The inclusion of these teachers is based on their experience in teaching the CBE curriculum. This concurs with Larry (2016) who postulated the respondents can be included in a sample based on their resourcefulness (Larry, 2016). These respondents were involved in the implementation of CBE curriculum in their schools. The target population was grouped according their schools and thereafter, stratified random sampling technique was utilized to select the 24 respondents. By using stratified random sampling, the researcher ensured that the sample is diverse and a reasonable representative of the target population of teachers (Creswell & Poth, 2018). This technique involved the division of the target population into subgroups based on specific criteria. This allowed for a more comprehensive analysis of the research problem and increases the validity and generalizability of the findings (Creswell & Poth, 2018).

3.5 Research Instruments

In this study, the researcher collected data through the following instruments:

3.5.1 Semi- structured questionnaire

According to Kothari (2014) a research questionnaire is a list of questions or items that are in an explicit order used to gather data from the respondents about their attitudes, experiences, or opinions. A semi-structured questionnaire is a research instrument that contains a mixture of closed-ended and open-ended questions which provides a framework for interviewer to follow while still allowing for flexibility and depth in responses (Smith, 2017). The researcher considered using a semi-structured questionnaire because it is free from bias and respondents will have adequate time to read and understand the statements before responding to them Bryman (2016). Additionally, Flick (2014) alludes that questionnaire can reach a larger number of participants, and thus allowing the researchers to adopt a more structured approach to data collection.

Therefore, the questionnaire was constructed in a semi- structured way so that it contains close-ended statements that elicit responses relative to the study variables drawn from the study objectives. The questionnaire consisted of four sections (Section A to D). Section A outlined the personal profile of the respondents; Section B to D elicited the variables drawn from objectives 1 to 3 of the study. Section B investigated the approaches that were used in preparing teachers for the implementation of the CBE. Section C, on the other hand examined the methods used by

teachers in implementing CBE in teaching and learning activities. Finally, Section D assessed the challenges encountered by teachers in implementing CBE in teaching and learning activities.

3.5.2 Interview

Marshal (2014), defines an interview as a method of gathering information from participants through direct communication. It involves asking participants (in person, over the phone or through video conferencing) a series of questions to gather their perspectives, experiences, opinions and insights on a specific topic (Hoy & Adams, 2015). The interview schedule consisting of questions developed by the researcher drawn from the main research questions was crafted. Cleave (2023) notes that self-developed interview questions are most effective for qualitative research as they help the researcher to explain, better understand and explore research's subjects, opinions, behaviour, experiences and phenomenon. The interview questions were open-ended questions so that in-depth information could be collected. The questions were formulated on the basis of the objectives outlined in chapter 1.

The researcher also included the interview as a tool for data collection in this study because interviews can provide rich, detailed insights into the study variables allowing for a deeper understanding of the participants' thoughts, feelings, and challenges related to the study objectives (Denscombe, 2014). Borg and Edmett (2019) allude that through interviews, the researcher could probe further into specific issues, clarify responses, and capture the nuances of 10 respondents who were purposively selected. The interview covered the following themes: approaches used to prepare teachers for the implementation of CBE; methods used by primary school teachers in implementing CBE in teaching and learning activities; challenges encountered by teachers in implementing CBE in primary schools' teaching and learning activities.

3.6 Data collection procedure

Data collection, according to Lee et al (2020) is a fundamental aspect of research as it ensures accuracy and reliability of research. It involves gathering information or data that is relevant to a particular research question or hypothesis (Brow et al., 2019). In this study, the researcher acquired an introductory letter from the university. This was used as an accompanying document in the application for permission to conduct the study in the targeted cluster. After receiving the approval from the responsible authority in the Ministry of Education, the researcher solicited the

target population to participate in the study. After their consent, the research instruments were introduced to the respondents and clearly explained to them for clarity. Afterwards, questionnaires were administered to the respondents, who were then given time to fill. The researcher also conducted some interviews with the purposively selected respondents to collect more data. After the data collection, clean up, coding and removal of errors and inconsistencies will be undertaken. The responses will then be summarised with percentages, and frequency counts. Inferences will also be drawn from the findings of the study.

3.7 Data Analysis

According to Polit and Hungler (2013), data analysis meant to organize, provide structure and elicit meaning. The data collected will be analysed as follows:

3.7.1 Quantitative analysis

Quantitative data analysis is a method that is used to understand and interpret numerical data in order to draw conclusions and make predictions through the use of statistical techniques (Maxwell, 2012). In this study the researcher used a descriptive analysis which is a type of analysis that primarily focuses on summarizing and describing the characteristics of dataset through the use of frequencies and percentages (Bryman, 2016). The process of carrying out the descriptive analysis of collected data, according to Kothari (2014) involves: organising and cleaning data, calculating summary statistics and presenting the findings in a concise manner (Bolivar & Dominguez, 2019). In the present study, measures for data analysis were both quantitatively and qualitatively.

3.7.2 Qualitative analysis

The researcher acquired qualitative data from the interviews that were conducted with the selected participants for the study. In analyzing qualitative data, the researcher used coding and thematic analysis to identify patterns, themes, and relationships in the data. Coding according to Creswell (2014) involves categorizing the data into meaningful units, while thematic analysis involves identifying common themes or patterns across the data (Smith, 2018). This means that the data analysis from the interviews will be converted into written data, then organised and sorted in order to interpret and report similar themes within the same perspective (Creswell, 2012). The voices of the interviewees will be captured in the analysis report. The qualitative data

obtained will be used to compliment and expound on the meaning of quantitative data from the questionnaires through subjective interpretive means.

3.8 Validity and Reliability

According to Oskan (2023), validity should be considered in order to envisage the correctness and precision of inferences that are based on the research outcomes. The research instruments were tested for validity to ascertain whether they measure the variables under study. Borg and Gall (2019) retorts that to improve the validity of an instrument, expert judgment must be sought. Therefore, to ascertain the content validity of the research instrument the researcher will engage the researcher's supervisor in checking and assessing the frequency of errors and the accuracy of data expected. Further, the researcher considered empirical literature in coming up with the questionnaire in addition to consulting with various professionals in seeking guidance in the development of the questionnaire. The process of validation enabled the researcher to test the suitability of the questions, the adequacy of the instructions provided and the appropriateness of the format and sequence of questions.

According to Kohl (2015) reliability refers to the ability of a questionnaire to over and over again yield similar outcomes when recurring measurements were taken of the same individual under the same conditions. A few subjects that possess similar characteristics to those of the sample should be used to run Trial tests of the measuring to ascertain the feasibility of the study (Sekaran, 2018). The reliability of the research questionnaire for this study will be determined through piloting technique. The questionnaire was piloted by taking 10% in the sample population who was later excluded in the actual data collection process.

In conducting the pilot study, the researcher sought to establish whether the respondents would understand the questions and thus offer the information required. Ozkan (2023) argued that conducting a pilot study was important before the main study as it assisted the researcher in: checking the suitability and the clarity of questions on the instruments designed relevance of the information being sought, the language used and the content validity of the research instrument. The pilot testing will be done using 10% of the sample population who will be excluded during data collection stage (Grade 1 to Grade 6 teachers).

3.9 Ethical issues

Ethical issues' considerations are paramount in a research study. Matula et al (2018) defined ethical issues as intangible set of values, standards and institutional schemes that help to establish and control scientific activity. Ethical issues in research are important as they provide researchers with ethical principles or guidelines for the successful conduct of a research (Thanh & Thanh, 2015). Hence, the researcher will consider the following ethical issues throughout the research investigation:

3.9.1 Informed consent

Informed consent is a crucial ethical consideration in research involving human participants. According to Dinham and Rowe (2019), informed consent ensures that participants are aware of the purpose of the study, their rights as participants, and the potential risks involved. Similarly, Dimmock and Walker (2019) emphasize the importance of obtaining voluntary and informed consent from participants in educational research. To ensure informed consent in a study, Omari, (2017) postulates that the researcher will need to provide participants with a detailed explanation of the study objectives, procedures, and potential risks involved. In this study the participants were given the opportunity to ask questions and make an informed decision about their participation. The researcher also used a consent form that outlined these details and allows participants to indicate their voluntary agreement to participate in the study through signing the consent forms.

3.9.2 Anonymity and confidentiality

Anonymity and confidentiality are key ethical considerations in research that involve human participants, particularly when sensitive information is being collected. According to Bartlett and Burton (2020), anonymity protects the identity of participants, while confidentiality ensures that their data remains secure and private. Similarly, Cohen et al (2018) highlight the importance of maintaining the confidentiality of participants' information to build trust and protect their privacy. To uphold anonymity and confidentiality in this research, the researcher assigned pseudonyms or codes to participants to protect their identities. Data collected from interviews or surveys was stored in a secure location and only accessed by the researcher. Any identifying information was removed from the data to ensure confidentiality. Additionally, the researcher

will seek participants' permission before sharing any personal information in publications or presentations.

3.9.3 Privacy

Privacy is another ethical consideration that needs to be addressed in research involving human participants. According to Johnson and Christenson (2019), privacy refers to respecting individuals' boundaries and ensuring that their personal information is protected. Gardner and Grant (2020) emphasize the importance of creating a safe and comfortable environment for participants to share their experiences without fear of judgment or breach of privacy. In this research, the researcher regarded participants' privacy by conducting interviews in a confidential setting. Participants had the option to share their experiences anonymously to maintain their privacy. The researcher also secured any form of sensitive information collected during the study and ensured that it was not disclosed to unauthorized individuals. Additionally, any data shared in presentations or publications was presented in a way that protected the privacy of participants.

3.10 Chapter summary

The chapter outlined the research methods and procedure that was used in collecting data which used for findings' interpretation and reporting. It further gave an outline of: the research paradigm, research approach, sample and sampling procedure, data collection and analysis procedure and research integrity through validity and reliability. It also explains how ethical issues would be handled. The next chapter would present the findings of the study as well as presentation, discussion, analysis and interpretation of the results.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter analyses, and interprets the results from the study. The study investigated the teachers' experiences in implementing CBE in teaching and learning activities in the Mahlangatsha cluster primary schools. The data was presented and analysed using thematic analysis under the following themes: approaches that are used to prepare teachers for the implementation of CBE, methods used by teachers in implementing CBE in teaching and learning activities and challenges encountered by teachers to implement CBE in teaching and learning activities. The data was analysed both quantitatively and qualitatively to forward a solid and vivid argument of the results.

4.2 Characteristics of the respondents

This section presents the characteristics of the selected respondents who were interrogated using both the semi-structured questionnaire and the personal interviews. The characteristics are explicated from the research respondents are: sex, age, professional qualifications, and work experiences.

Table 4.1: Demographic characteristics of the selected respondents (teachers) (n = 24)

Attribute(s)	(n)	(%)
Sex		
Male	11	45.8
Female	13	54.2
Age range (years)		
25-29	2	8.3
30-34	7	29.2
35-40	5	20.8
41-45	2	8.3
46-50	3	12.5
51-55	3	12.5
Above 55	2	8.3
Professional qualifications		
Primary Teacher's Diploma (PTD)	17	70.8
Bed	7	29.2
Med	0	0.0
Teaching experience (years)		
Below 5	3	12.5
6-10	4	16.7
11-15	10	41.7
16-20	4	16.7
Above 20	3	12.5

Table 4.1 shows that 11 (45.8%) of the selected respondents were males while 13 (54.2%) were females. It was also observed that the huge number of the respondents (66.7%) were in the age brackets of 25 to 45 years. Only 8 (33.3%) of the respondents were in the age bracket of 46 to above 55 years. This implied that the cluster had a rich youthful human resource. With regard to professional qualifications, the respondents were distributed as follows: It was further noted that the majority of the respondents (70.8%) were Diploma holders, while (29.2%) were Bachelor's degree holders. Among the selected respondents, none were holders of the Master's degree. Considering the fact that all of the respondents were professionally qualified to teach, it means all of them were in the right professional position to implement the CBE curriculum in teaching and learning activities.

In terms of teaching experience, it was observed that: 12.5% of the respondents had an experience of less than 5 years; 16.7% had an experience of between 6 and 10 years; 41.7% had an experience of between 11 and 15 years; 16.7% had a teaching experience of 16 to 20 years and only 12.5% of the respondents had an experience of above 20 years. Looking closely at the work experience of the respondents, it could be generalised that a majority had a teaching experience of above 10 years. This signified that the respondents were professionally matured enough to handle the demands brought by the CBE curriculum in teaching and learning activities. Due to their professional qualifications and experience, the respondents were considered to be having the much-needed expertise and charisma to implement the CBE curriculum with efficacy and diligence.

4.3 Approaches used to prepare teachers for the implementation of CBE in primary school teaching and learning activities

The following is the presentation of the result of the first theme which was investigating the approaches that are used to prepare teachers for the implementation of CBE curriculum. The study investigated the extent each of the approaches below was used in preparing the respondents. Table 4.2 presents the respondents' assertions on the approaches that are used to prepare teachers for the implementation of the CBE.

Table 4.2: Respondents views on the approaches used in preparing teachers for the implementation of CBE (n=24)

Attributes	Strongly Agree		Agree		Strongly Disagree		Disagree	
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)
Provision of professional development opportunities through continuous in-service training and refresher' courses.	1	4.2	4	16.7	6	25.0	13	54.2
Organizing seminars and workshops to empower teachers on CBE approaches.	7	29.2	13	54.2	2	8.3	2	8.3
Provision of opportunities to partner with other professionals in groups such as clusters and subject panels for collaborative training on CBE approach.	0	0.0	4	16.7	17	70.8	3	12.5
Provision of pre-service training on CBE approach to new teachers in colleges and universities.	1	4.2	15	62.5	2	8.3	6	25.0
Alignment of pre-service training with the CBE approach in teacher training institutions.	3	12.5	13	54.2	4	16.7	4	16.7

4.3.1 Provision of professional development opportunities through continuous in-service training and refresher' courses

The results of the study indicated that 4.2% of the respondents strongly agreed, 16.7 % agreed, 25% strongly disagree and 54.2% disagree that in-service training and refresher courses were used to prepare teachers for implementation of the CBE. The low percentage of participants who strongly agreed or agreed with the provision of in-service and refresher courses is concerning as it suggests that there may be a lack of support from the in-service department for teachers in preparing them for CBE implementation. This was also noted in the responses during interviews where some of the respondents reported feeling unsupported and unprepared to implement CBE, while others were frustrated by the lack of continuous and practical in-service training through provision of refresher courses to equip teachers for the effective and successful implementation

of the CBE curriculum. Hence, In-service training and refresher courses were seen as ineffective in helping teachers develop the skills and knowledge necessary for successful CBE implementation in primary schools. One interviewed respondent asserted that:

We are expected to implement this new approach without any additional training or support. It is challenging to make the necessary changes in our teaching practices without adequate professional development opportunities. Sometimes I wonder if we still have the INSET department in the Ministry of Education, because we are seemingly on our own here (Interviewee 9)

In support of these sentiments, another respondent added that:

I desperately need some professional grooming on this issue. I'm a grade 3 teacher and new to this grade. All along I've been teaching Grade 7. As you know infusion workshops have only been done for Grade 6 teachers this year. All my teaching years, I have been teaching the OBE curriculum, now I'm just caught up in a very tight spot. To be honest with you, I do not know how to handle this CBE thing. I depend only on information from my colleagues in the lower grades. But they too are in the dark since they had only been trained during those workshops when CBE was infused in their grades after which there had been no training. How I wish that the Ministry of Education provides regular trainings for all the affected grades yearly until the new approach is fully adopted by us as the main stakeholders (Interviewee 3)

The results generally explained that most of the participants felt that in-service and refresher courses were not adequately prepared and disseminated to prepare them for implementing CBE in their classrooms. This called for the in-service department in the Ministry of education to address this concern and shortcoming as they have an imperative role to play in the successful implementation of CBE in schools. By providing ongoing professional development and support, in-service education programmes would help teachers overcome challenges and improve their instructional practices which would consequently yield a successful CBE programme implementation in the classroom (Chandi, 2019).

4.3.2 Organizing seminars and workshops to empower teachers on CBE approaches

From Table 4.3 above, it could be seen that most of the respondents (83.4 %) either strongly agreed or agreed that seminars and workshops were used in preparing them for the implementation of CBE curriculum while 16.6% of the respondents either strongly disagreed or disagreed that seminars and workshops were used to prepare them for the implementation of the CBE curriculum in teaching and learning activities. These results showed that the respondents

have been exposed to seminars and workshops as an approach in preparing teachers for the implementation of CBE. In this same vein a respondent acknowledged that:

I am a subject panel member, and I have attended several seminars and workshops on the CBE implementation approach, and I have found them to be incredibly helpful. Through the, I have found them to be valuable in helping me understand the key concepts and strategies involved in transitioning to the CBE curriculum (Interviewee 2)

The study further revealed that many teachers considered seminars and workshop as a common strategy used by the Ministry of education and training in providing them with the necessary knowledge and skills to implement CBE in their classrooms. However, some respondents during the interviews reported feeling overwhelmed by the amount of information presented in these sessions, while others felt that the content was not relevant to their specific needs and challenges. As a result, seminars and workshops were generally viewed with mixed feelings as a mean for preparing teachers for implementing CBE in primary schools. One respondent stated:

The seminars and workshops we attend are not consistent. They are often one-time events that do not provide ongoing support or follow-up. For, instance I am a teacher in the first Grade, and only attended workshops in 2019 during the infusion of the CBE materials. In those workshops we were bombarded with a lot of confusing information, and we were assured that more training opportunities would be availed in future. However, since then there had not been any workshop for us as first Grade teachers to further empower us and to get feedback on how we are coping with the provided materials and the approach as a whole (Interviewee 5)

Another respondent echoed the similar sentiments and attested:

We do appreciate the Ministry's effort to organize CBE seminars and workshops during infusion of CBE materials. This helps in giving us the idea of what this CBE is, and in eliminating the various misconceptions we had had about this new curriculum. However, there is a need for consistency in hosting more follow- up and empowering workshops. As things are, on the ground, workshops are a onetime event. For example, the last time I attended a Grade 4 CBE workshop was around February 2022 during infusion workshops, and this lack of consistency in professional development opportunities for us as teachers hinder our ability to effectively implement competency-based education in our classrooms, as you know that this approach is still new to us, and there is so much to learn. Teachers do need an ongoing support and training to ensure they are up-to-date with best practices and strategies for teaching in this new approach (Interviewee 2)

From the above analogue, it could be established that there is a need for consistent hosting of seminars and workshops to continuously prepare educators for a successful implementation of the CBE curriculum. Lack of teacher training support can lead to resistance and pushback from

teachers, as they may feel overwhelmed by the demands of implementing a new educational approach without the necessary resources and guidance (Flowers, 2017).

4.3.3 Provision of opportunities to partner with other professionals in groups such as clusters and subject panels for collaborative training on CBE approach

Perspectives of educators on the use of professional learning communities (PLCs), as an approach for the implementation of the CBE, were explored. The results of the study indicated that a majority of participants (70.8 %) strongly disagreed with the idea that PLCs are effective for preparing teachers for CBE, while 12.5 % disagreed, 7% agree and 0 % strongly agreed. These results are significant and further require further analysis to understand the reasons behind such strong disagreements since PLCs play a crucial role in supporting teachers in their implementation of competency-based education by providing a forum for collaboration and professional growth. One possible explanation could be the lack of clarity of understanding of what a PLC entails and how it can support teachers in implementing the CBE. Similar sentiments were observed in some responses during interviews. One respondent noted:

Our PLC meetings often focus on administrative tasks rather than instructional strategies. We do need more time to collaborate with our colleagues and share best practices for teaching in a competency-based classroom (Interviewee 10)

On a distinct perspective, another respondent out cried that:

The clusters are seemingly defunct. Since the inception of the CBE curriculum, we had had no cluster meetings. In fact, the latest cluster meetings for teachers organized before the advent of the Covid -19 pandemic. There is a need to revive them especially now as we are dealing with a new transition in the educational landscape that calls for teachers to work collaboratively for the efficiency of our service (Interviewee 1)

From the results, it could be deduced that there was a need for schools' administrators to shift the focus of PLCs within their school towards sharing knowledge and expertise on CBE matters. The in-service department in the ministry of education must also ensure the functionality of clusters as they availed essential platforms for teachers to interact and deal with barriers that hinder successful implementation of the CBE curriculum. This correlated with the assertion by Schell (2024) highlighted that working collaboratively in a professional learning community impacts the teachers in the group, their peers and students, yielding sufficient improvement in the culture of innovation and improvement in teaching and learning.

4.3.4 Provision of pre-service training on CBE approach to new teachers

The results on the use of the pre-service training for teachers especially in colleges and universities to prepare teachers for the implementation of the CBE curriculum indicated that the majority of the participants (66.7%) strongly agreed or agreed that colleges and universities do provide pre-service training for training teachers in these institutions. This suggested that there was a general awareness and acceptance of the importance of CBE in teacher education. However, the fact that 33.3 % of the respondents either strongly disagreed or disagreed with this statement highlighted a significant proportion of individuals who do not believe that pre-service training on CBE is adequately provided. On a similar note, some respondents echoed the findings from the quantitative data. One respondent said:

I first heard of this CBE curriculum from a friend who is now teaching in Singapore. I did not know then what he was talking about, until I did a module which was introduced to us in our final year while I furthered my studies in one of the universities in the country three years ago. It did help me a lot with the theoretical aspect of the new curriculum. That has helped me to understand easily when the approach was finally introduced in Grade 6 this year (Interviewee 4)

However, one of the respondents lamented that if only the tertiary education incorporated training in multiple kinds of curricula rather than focussing in one kind, their training will be transformational. In response the respondent said:

I sometimes blame the Ministry of education for not investing much resources in training teachers on the CBE approach, but I also blame our local tertiary institutions too. I understand that they currently have programmes on CBE, but why wait until the curriculum is introduced in our country? If they gave us a basic training in all the curriculum approaches, we couldn't be here. All this resistance you see from teachers against the CBE curriculum wouldn't be there if we had the basic knowledge of what this approach entailed (Interviewee 8)

These results shed light on the current status of pre-service training on CBE in colleges and universities for aspiring teachers. While a majority of respondents expressed positive attitude towards such training, there remained a significant minority who held reservations or outright opposed the idea. As noted by Jones et al (2021), who postulated that teachers who received training in CBE during their initial preparation stages were more likely to adopt the CBE methodology in their classrooms, therefore, the role of pre-service training on CBE implementation cannot be underestimated. These results exposed the need for further investigation of pre-service education and its alignment with the CBE curriculum.

4.3.5 Alignment of pre-service training with the CBE approach in teacher training institutions

The results of the investigation indicated that a majority of respondents (66.7 %) either strongly agreed or agreed that pre-service training was aligned with the CBE approach. This was a positive sign, as it suggested that there was recognition among educators of the importance of preparing teachers for the shift from OBE to CBE. However, it was concerning that a significant minority (33.4%) of the respondents either strongly disagreed or disagreed with the idea that there was alignment of pre-service training with the CBE approach. In support of these quantitative findings, interview responses from educators also shed light on the efficiency of the pre-service training and alignment with the CBE approach. One respondent unveiled:

I was fortunate to receive training on CBE three years ago while furthering my studies at the university. This allowed me to understand the principles behind competency-based learning and how to implement them in my teaching practice (Interviewee 4)

Another respondent echoed these sentiments and highlighted:

I am currently enrolled for a Bachelor' degree in one of the country's universities, and I feel that my pre-service training is aligned with the CBE approach. This helps me not only to understand all the aspects of CBE curriculum, but to also effectively implement it in my classroom (Interviewee 7)

These responses supported the idea that pre- service training was indeed aligned with the demands of CBE in teacher education programmes at tertiary institutions. This suggested that there may be some form of resistance or anxiety in embracing the new approach to teaching. It is therefore important for education policymakers and teacher training institutions to address these concerns and provide support and resources to help teachers understand and implement the CBE approach effectively.

4.4 Methods used by teachers in implementing CBE in primary school teaching and learning activities

This section presents the results from the second theme which investigated the several methods used by teachers in implementing CBE in teaching and learning activities.

Table 4.3 Methods used in implementing CBE in teaching and learning activities (n=24)

Attribute(s)	Strongly Agree		Agree		Strongly Disagree		Disagree	
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)
Providing learners with authentic tasks that are based on real world problem solving.	3	12.5	6	25.0	9	37.5	6	25.0
Giving learners project work that will trigger their problem solving and thinking skills.	3	12.5	9	37.5	2	8.3	10	41.7
Conducting action research to evaluate the effectiveness of your teaching methods on learners' achievement	0	0.0	5	20.8	7	29.2	12	50.0
Preparing personalized or individualized learning plans to accommodate diversity in your classroom	1	5.0	3	12.5	3	12.5	17	70.8
Availing opportunities for learners to discuss in groups certain topics (peer-tutoring)	9	37.5	8	33.3	3	12.5	4	16.7
Allowing your learners to often work together and share knowledge with each other.	8	33.3	11	45.8	0	0.0	5	20.8

4.4.1 Providing learners with authentic tasks that are based on real world problem-solving

According to the quantitative data results in table 4.4, 12.5% of teachers strongly agreed that they used design-based learning, while 37.5% agreed with this statement. On the other hand, 8.3% of the respondents strongly disagreed, and 41.7% disagreed that they used design-based learning in implementing CBE in teaching and learning activities. These results indicated that a significant portion of the respondents were in favour of using design-based learning in their classrooms to promote CBE. This was also indicated in the data collected from the interviews. One respondent retorted that:

Giving learners design- based project is utterly impossible. As a teacher for a class of over 50 learners, this method can be unpredictable and may not always prioritize the skills and knowledge that are essential for success in a CBE system. The fact that I would have to allow my learners time to these tasks probably outside the school, there is high probability that those activities will be done by their next of kin and hence the intended purpose will not be served (Interviewee 6)

However, there is also a sizable minority of teachers who had reservations about this method. It is therefore important to delve deeper into the reasons behind these attitudes. This was also attested by views from the respondents during personal interviews. For instance, one respondent gave accolades to the use of this method and said that:

I love challenging my learners' criticality; hence I give them from time-to-time small tasks to do on their own or in small groups. The feedback I have thus far received is really amazing. I have seen my students, taken ownership of their learning and developed a deeper appreciation for the subject matter. To me it is one way of individualised teaching. I vividly believe that if teachers could be given enough teaching resources, this would be an adopted method in every class (Interviewee 2)

Overall, the results of the study suggested that there was a need for ongoing professional development and support for teachers to effectively implement design-based learning as a method for implementing CBE in primary schools. By providing teachers with the necessary training and resources, schools can facilitate the adoption of design-based learning pedagogical approach that promotes student-centred learning and development (Mkonongwa, 2018).

4.4.2 Giving learners project work that will trigger their problem-solving and critical thinking skills

In this investigation conducted among teachers in primary schools, it was found that 12.5% strongly agreed and 37.5% agreed that they use PBL as a method to prepare teachers for the implementation of CBE. On the other hand, 8.3% strongly disagree and 41.7% disagreed with using PBL for this purpose. This variation was also noted in the anecdotes given by some respondents. One teacher expressed her enthusiasm for PBL, stating that:

I love giving my learners projects to do at home as it allows my students to take ownership of their learning and apply their knowledge in meaningful ways. The hands-on nature of the projects motivates my students to engage with the given material as well as collaborating effectively (Interviewee 3)

On the other hand, another teacher presented a more sceptical view of PBL raising concerns about the time and resources required to implement project- based learning activities effectively.

The teacher pointed out that:

PBL- could be labour intensive for teachers, as it requires careful planning and coordination to ensure that students are able to successfully complete their projects. Also, some students struggle especially here in our rural setting with the open-ended nature of PBL preferring a more structured and traditional forms of instruction (Interviewee 1)

These results showed that while there was some level of acceptance and adoption of PBL among teachers, there was also a significant percentage of teachers who were not in favour of using this method for preparing teachers for CBE. One possible explanation for the mixed responses to the use of PBL for preparing teachers for CBE could be the varying levels of understanding and experience with both PBL and CBE among teachers (Mwanza, 2017). Teachers who are already familiar with PBL and have seen its benefits in their teaching practice may be more open to using this method for preparing teachers for CBE. On the other hand, teachers who are less familiar with PBL or who may have reservations about its effectiveness may be more sceptical about its use for CBE. Hence, some training on effective use of this method in CBE teaching and learning activities is essential to boost the educators' confidence in this method.

4.4.3 Conducting action research to evaluate the effectiveness of your teaching methods on learners' achievement

The results for this research theme showed 0% of participants strongly agreed, while 20.7 % agreed that they did use action research as a method for implementing CBE in teaching and learning activities. Likewise, 29.2% strongly disagreed, while 50% disagreed with using action research for implementing CBE in primary schools teaching and learning activities. These results present a mixed perception among primary school teachers regarding the effectiveness of using action research for implementing CBE. The fact that 0% of the participants strongly agreed with the method indicated a significant lack of strong endorsement for this approach. This may suggest that teachers do not see action research as the most suitable or effective method for implementing CBE in primary schools. In this sense one of the respondents highlighted that:

It is utterly impossible to conduct action research in our case. We are working in an environment where the learners are struggling to keep up with the demands of the curriculum. I'm talking of a grade 5 class where the majority of learners can't read and write. Hence what I'm teaching now is not what the curriculum dictates, but what the situation on the ground dictates. Besides, we also lack some essential resources that make our teaching impaired. For instance, I'm expected

to teach music without the instruments that the syllabus instructs me to use, because the school can't afford. Then there is no point in evaluating my teaching, because I know before I start that it will be ineffective (Interviewee 5)

The 20.7 % of participants who agreed with the method may indicate some level of support for using action research, but it is still a relatively small percentage compared to those who disagreed or strongly disagreed. The high percentage of participants (50%) who disagreed with using action research for implementing CBE in primary schools is a significant finding. This indicated that a large portion of teachers did not see the value or effectiveness of this approach. The reasons for this disagreement could be varied ranging from a lack of understanding of action research methods to scepticism about its impact on teaching and learning outcomes. It is important to explore these reasons further to address any concerns or misconceptions that teachers may have regarding the use of action research in implementing CBE. Such sentiments were also shared by some interviewed teachers. One respondent retorted that:

Action research is beyond my students' cognition and educational level. Why do it when I have not actually started teaching them the Grade 5 content. The reason is that the majority of the learners in my class are struggling with the prerequisites. They can't read and write. Therefore, my focus now is only on helping them develop these skills. Action research will be irrelevant for me since I have not started teaching them the materials for this grade. I will hopefully do it next term (Interviewee 5)

The 29.2 % of participants who strongly disagreed with using action research for implementing CBE in primary schools is another striking result. This indicates a strong opposition to the method among a considerable portion of teachers. This could be due to various factors such as a preference for traditional teaching methods, a lack of support or resources for implementing action research, or a belief that CBE can be effectively implemented through other means. Understanding the reasons behind this strong disagreement is crucial for designing effective strategies to promote the use of action research in primary schools.

4.4.4 Preparing personalized or individualized learning plans to accommodate diversity in your classroom

The results indicated that only 5% of the respondents strongly agree that they used differentiated learning as a method in implementing CBE in their teaching. This suggested that there was a small minority of teachers who were fully committed to implementing this approach in their classrooms. On the other hand, 12.5 % of the respondents agreed that they used differentiated learning, indicating a slightly larger group of teachers who were open to the idea, but may not fully embrace it. However, the majority of respondents (70.8%), disagreed that they used the method in their teaching. Additionally, 12.5% strongly disagreed with the use of differentiated learning as a method in implementing CBE. These results highlighted a significant divide in the adoption of differentiated learning as a method in primary schools teaching and learning activities (Mdluli, 2020). One possible explanation for the low percentage of teachers who strongly agree with using differentiated learning could be a lack of training and professional development in this area. In the same vein a respondent noted that:

CBE teacher ratio on average is one teacher with 25 learners, but in my case, I have 62 students in my Grade 1 class. Tailoring my teaching to meet the needs of all these learners is practically impossible. I rather use group teaching depending on the need on the ground (Interviewee 1)

From the above contribution, the respondent highlighted teachers as not being confident of their ability to effectively implement differentiated instruction in their classrooms without the necessary support and resources. Some other reasons cited by some of the respondents during interviews were the perceived difficulties in managing a classroom with diverse learning needs. One respondent stated:

It's a challenge to cater the needs of every student in a class of 60 or more. It's easier to just teach to the middle and hope for the best (Interviewee 10)

These sentiments were echoed by other respondents who felt overwhelmed by the prospect of individualizing instruction for each student due to lack of resources. One teacher said:

I would love to use differentiated learning, but I do not have the time and the resources to create separate lesson plans for each student in my class of 65 learners (Interviewee 3)

Furthermore, the high percentage of respondents who disagreed with using differentiated learning suggested a resistance to change or a lack of understanding of the benefits of this approach. Some teachers may view differentiated learning as too time-consuming or challenging to implement, especially in a competency-based education framework where students are expected to master specific skills at their own pace. It is important to address these barriers to the implementation of differentiated learning in primary schools. Professional development opportunities that focus on the principles and practices of differentiated instruction can help teachers develop the skills and confidence needed to effectively tailor instruction to the diverse needs of their students. Additionally, school leaders can provide support and resources to help teachers implement differentiated learning in their classrooms, such as access to technology tools and instructional materials that support individualized learning.

4.4.5 Availing opportunities for learners to discuss in groups certain topics (peer-tutoring)

The research findings indicated that a significant proportion of educators (37.5%) strongly agreed that peer tutoring is an effective method for implementing CBE in primary schools. This was a positive indication that educators recognized the benefits of peer tutoring in promoting collaborative learning and enhancing students' competency development. Peer tutoring according to Adebajji et al (2018) allowed students to work together, share ideas, and provide mutual support, which can help to reinforce learning and improve academic performance. In this regard, one of the respondents indicated that:

So far, this is one of the best aspects of CBE. Promoting group discussions and working together is one thing I have appreciated in all the CBE materials. It does not only develop the learners' social skills and problem-solving skills, but it also aids us to easily manage the large numbers of learners in our classrooms. There are no idle learners in a class where learners are doing assigned tasks in their groups (Interviewee 2)

Additionally, 33.5% of educators agreed that peer tutoring was a useful method for implementing CBE in primary schools. While this percentage was slightly lower than those who strongly agreed, it still suggested that a considerable number of educators saw the value of peer tutoring in supporting competency-based teaching and learning. This was akin to UNESCO (2021) observation that peer tutoring could provide students with individualized support and feedback, allowing them to progress at their own pace and focus on areas where they need additional assistance. On the other hand, 12.5% of educators strongly disagreed and 16.7%

disagreed that peer tutoring was an effective method for implementing CBE in primary schools. These findings suggested that there are some educators who may have reservations about the use of peer tutoring as a teaching strategy. In support of the above one of the respondents had this to say:

I sincerely don't like group discussions for many reasons. The noise and drama from these groups is too much for me to bear. I rather allow them to work in pairs for minor discussions (Interviewee 4)

It is important to consider the reasons behind these opposing viewpoints and address any concerns or misconceptions that educators may have had about peer tutoring. Maybe, providing professional development opportunities and resources on effective peer tutoring practices could help to alleviate any scepticism while providing support to educators in implementing peer tutoring successfully. Overall, the research results highlighted the potential of peer tutoring as a method for implementing CBE in primary schools. This echoed the view by Rahman et al (2019) who insinuated that by promoting collaboration, peer tutoring can enhance students' communication and teamwork skills, as well as their subject knowledge and understanding. Educators who strongly agree or agree with the use of peer tutoring can play a critical role in advocating for its implementation in primary schools and sharing best practices with their peers.

4.4.6 Allowing learners to often work together and share knowledge with each other

According to the research results, 33.3% of respondents strongly agreed and 45.8% agreed that they did use interaction and sharing as a method for implementing CBE in their teaching and learning activities. This indicated that a majority of educators recognized the importance of active student engagement and collaboration in promoting competency-based learning. These results suggested that interaction and sharing can enhance students' understanding and retention of the material, as well as foster critical thinking and problem-solving skills. The similar sentiments were echoed by one of the respondents during personal interviews that peer tutoring was a common and efficient method for both small groups and large groups. The teacher explained:

I use group work almost every day in my lessons as it promotes a supportive learning environment where my students work together and help each other succeed. Learners learn much better when they learn from each other. By working with their peers, my students not only reinforce their own understanding of the materials at their disposal and to build important social and communication skills (Interviewee 7)

Another respondent added that:

Giving learners some group work is my best method I use in CBE. I teach in an overcrowded classroom; hence this method allows me to attend multiple individuals at a time for both remediation and enrichment. Besides, my learners enjoy the lessons they do in groups where they will be sharing knowledge and resources (Interviewee 1)

On the other hand, 9% strongly disagreed and 20.8% disagreed that they used interaction and sharing as a method for implementing CBE. It was possible that these educators may not fully understand the benefits of this approach or may be faced with challenges in implementing it effectively. It was important for schools to provide support and training for teachers to help them incorporate interactive and collaborative activities into their lessons.

4.5 Challenges encountered by teachers in implementing CBE in primary school teaching and learning

Another theme that this study investigated were some of the challenges that were encountered by teachers in implementing the CBE in teaching and learning activities. Table 4.5 below explicitly presented the findings from the study.

Table 4.4 Respondents' views on the challenges that are encountered by teachers in implementing CBE (n=24)

Attributes	Strongly Agree		Agree		Strongly Disagree		Disagree	
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)
Lack of teaching and learning resources.	15	62.5	6	25.0	1	4.2	2	8.3
Lack of teacher training support.	5	20.8	11	45.8	6	25.0	2	8.3
Lack of support from administration and other educational partners.	7	29.2	9	37.5	1	4.2	7	29.2
Personal resistance to change to the CBE approach.	6	25.0	12	50.0	2	8.3	4	16.7
Lack of clear understanding of the CBE approach.	9	37.5	7	29.7	4	16.7	4	16.7
Overcrowded classrooms	9	37.5	9	37.5	2	8.3	4	16.7
Lack of student motivation	14	58.3	6	25.0	1	4.2	3	12.5
Being overworked	19	79.2	5	20.8	0	0.0	0	0.0
Failure to draw a line between OBE and CBE	8	33.5	8	33.5	3	12.5	5	20.8
Lack of professional learning communities within your school and nearby	19	79.2	3	12.5	1	4.2	1	4.2

4.5.1 Lack of teaching and learning resources

The quantitative data presented showed that a significant majority of teachers (62.5%) strongly agreed that the lack of teaching and learning resources was a major challenge in implementing CBE in primary school teaching and learning. This was further supported by the 25 % who agreed with this statement, highlighting the widespread recognition of the problem among teachers. On the other hand, 4.2 % strongly disagreed and 8.3 % disagreed with this idea, but the overwhelming majority of the responses indicated that this is a significant issue that needs to be

addressed. These sentiments were seconded by some respondents during interviews. One respondent alluded that:

Our school lacks basic infrastructure like classrooms and libraries. How are we supposed to provide quality education to our students without the necessary resources (Interviewee 3)

Another respondent added that:

I am obliged to teach ICT without the proper gadgets and tools. It is absolutely demotivating both to me and to my students to teach and learn a lesson without the necessary tools to do so. That is why we should work together with other schools to share resources and materials. This way we can ensure that all students have access to the resources they need to succeed (Interviewee 4)

The results findings showed that despite teachers' resilience and dedication in implementing CBE principles in their classrooms, their effort was restricted by the lack of vital resources needed for the successful implementation of the new curriculum approach. Since this issue seemed pervasive and affecting their successful implementation of the CBE approach, it called for the state government, through the Education Ministry, which funded all CBE programmes in schools, to direct reasonable financial resources that will be used to buy teaching materials and build infrastructure that is needed for the successful implementation of the CBE curriculum.

4.5.2 Lack of teacher training support

Also, the results indicated that 20.8% of the respondents strongly agreed that lack of teacher training support is a significant challenge in implementing CBE, while 45.8 % agreed with this statement. This shows that a majority of teachers recognize the challenge of lack of teacher training support to assist teachers to effectively implement CBE in the classrooms. On the other hand, 25.0% strongly disagreed and 8.3 % disagreed with this sentiment indicating that there may be some teachers who feel adequately prepared to implement CBE without additional training. One of the respondents indicated that:

I feel like I was thrown into CBE without proper training and support. It's overwhelming to completely change my teaching approach without guidance (Interviewee 6)

Another respondent stated that:

I'm teaching this curriculum for the first time this year, and I have never attended any workshop or seminar on CBE. Worsening things is the fact that even the infusion workshops have long passed the grade that I am teaching. To say I'm confused will be an understatement. I am just chaotic! Even my colleagues and leaders can't help me much because this thing is new to them too, and they are still struggling to cope with the several challenges brought to them by this new pedagogy. I'm really not sure if what I am doing is the right thing or not (Interviewee 5)

These findings indicated that there was, to a certain extent, the lack of teacher training support on CBE implementation. This was alarming because training was an essence for an effective rolling out of CBE curriculum as it assisted educators to navigate the challenges of implementing the CBE curriculum (Komba and Mwandaji, 2015). These findings seconded findings by Dlamini, Bhebhe and Dlamini (2018) who noted an insufficient preparedness of stakeholders by the Eswatini government to help them embrace and accommodate the demands of the new educational approach. Therefore, these results acknowledged the need for continuous training workshops and feedback workshops to equip, assess, evaluate and enhance the implementation of the CBE curriculum in schools.

4.5.3 Lack of support from administration and other educational partners

On the issue of lack of support from the administration and other educational partners, 29.2% specifically strongly agreed and 37.5% agreed that there was a lack of support from administration and other educational partners poses a challenge for them in implementing CBE. On the other hand, 4.2% strongly disagree and 29.2% disagreed with the assertion. During the interviews with the respondents, one respondent commented that:

I feel like I'm on my own when it comes to implementing CBE. There is a lot of pressure I get from the administration to cover the curriculum and prepare students for standardized tests. I have 67 learners in my class which conflict with the principles of CBE. Worsening my case is that I do not have an assistant teacher to help me with all the work, yet the national curriculum framework categorically stated that each class must have an assistant teacher to assist the classroom teachers (Interviewee 2)

This sentiment was excerpted by another respondent who stated that:

I want to provide personalized learning experiences for my students, but it's challenging when I don't have the resources or support, I need to do so. When I contact my superiors, they always give excuses about lack of financial resources (Interviewee 7)

These results findings indicated that a large proportion of teachers felt that they were not receiving the support they needed to effectively implement CBE in their classrooms. They also showed that teachers did acknowledge the need for support in the CBE implementation. These results were concerning as they affirmed findings by World bank (2021) which showed that a large proportion of Sub-Saharan teachers were not receiving the support they needed to effectively implement CBE in their classrooms. Therefore, there it was noted there was an urgent need for teachers' support as without adequate support from administration and other stakeholders, teachers may struggle to design and deliver instruction that aligns with the principles of CBE. It was therefore imperative that school's administrators and other educational partners should work together to assist teachers with all the help they need for them to successfully implement the CBE.

4.5.4 Personal resistance to change to the CBE approach

Furthermore, the research investigated if the respondents have any personal resistance towards the new CBE approach, and according to the research findings 25% of teachers strongly agreed and 50% agreed that their personal resistance to change poses a challenge to successfully implementing CBE in primary schools. This indicated that a majority of teachers recognized the potential barriers they may face in adopting a new approach to teaching and learning. Even some responses from the personal interviews showed this pessimistic attitude. One respondent retorted that:

I have been teaching for over 15 years, and have been the best in what I did. I am comfortable with the way I have always done things as it has yielded best learning outcomes for my students. CBE feels like a disruption to my routine and I am not sure I can adapt to it (Interviewee 8)

Likewise, another respondent said that:

I already have a lot on my plate, and the idea of completely changing my approach to teaching seems overwhelming. I am not sure if I have the time or energy to invest in learning a whole new system together. Also, the pressure that comes with the work that this CBE approach is bringing is really too much for me to cope with (Interviewee 5)

On the other hand, 8.3 % of respondents strongly disagreed and 16.7% disagreed with the notion that their personal resistance to change pose a challenge to CBE implementation. These voices were also seconded by some respondent who were interviewed during data collection. One respondent claimed that:

I love this new approach as it helps us to do away with rote teaching and to make our learners interests paramount in the teaching and learning process. If only we had enough resources to teach it like in the First World countries, I would vouch for it 100% (Interviewee 9)

The overall findings indicated that teachers are reluctant to change to the new approach. Therefore, there was a need for deep investigation on the causes of this form of resistance as this could stem from a variety of factors which further research can unveil. Also, the dissenting voices may reflect a lack of understanding or awareness of the potential benefits of CBE, or a belief that current teaching practices are already effective and do not need to be modified. In order to address this, there is a need for provision of comprehensive professional development opportunities that equip teachers with the knowledge and skills they need to successfully implement this new approach.

4.5.5 Lack of clear understanding of the CBE approach

The extent to which the lack of understanding of the CBE approach posed a challenge for the implementation of the CBE was also investigated. The quantitative data showed that 37.5% of the respondents strongly agreed that a lack of clear understanding of the CBE approach was a barrier to its successful implementation, while 29.7% agreed with this statement. One respondent shared the following sentiments:

I can't exactly demarcate between the OBE and CBE approaches. To me the two are quite the same. I was looking at the specimen exams for the new curriculum, they are 100 % the same as the former OBE exams. The only difference I have noted is the lot of unnecessary work we are told to do for a CBE lesson (Interviewee 10)

Another respondent attested that:

There is a need for further training us as educators on the concept of CBE. Right now, we have been oriented on the CBE materials that we use in to facilitate teaching in the classrooms, but the truth is we are in the dark on the realities of this new curriculum. I feel like the concept of CBE is great, but I struggle with how to actually implement it in my daily teaching. I do see some success with the new approach, but I also face challenges in ensuring that all students are progressing at their own pace. I wish I had more training and support in this area (Interviewee 2)

On the other hand, 16.7% strongly disagreed and 16.7% disagreed with the idea. The high percentage of the respondents who strongly agreed or agreed with the statement indicates that a significant portion of teachers saw a lack of clear understanding of CBE as a barrier to its successful implementation in primary schools. This suggested that there was a need for

professional development and training to enhance teachers' understanding of CBE principles and practices. Additionally, the sizeable proportion of respondents (33.4%) who disagreed or strongly disagreed with the statement could be due to various factors such as previous training in CBE, support from school leadership, or successful implementation of CBE in their own classrooms. The results' findings also insinuated that there was a need of a consistent focus to the training and empowering of teachers for the implementation of CBE as alluded above.

4.5.6 Overcrowded classrooms

The results reflected that 37.5% of the respondents strongly agreed that overcrowded classrooms are a significant challenge while another 37.5 % agreed with the statement. On the other hand, 8.3 % of the respondents strongly disagreed, and 16.7% disagreed that overcrowded classrooms are a challenge in implementing CBE. These statistics indicated a significant divide in perspectives on the issue of overcrowded classrooms and their impact on the successful implementation of the CBE curriculum in the classroom. However, it is worth noting that the majority of the participants (75%) pointed to the challenge of overcrowded classrooms. Some interviewed respondents also shared sentiments that alluded the findings from quantitative data. One respondent said that:

It is really hard to efficiently implement CBE in our context. We have large numbers of learners in our classroom which constraint our efforts to follow the techniques and methods of teaching this new curriculum. For instance, I have 55 learners in my classroom, and it is extremely difficult to facilitate individualised learning with such large numbers (Interviewee 8)

Another respondent echoed these sentiments and said:

I feel overwhelmed and exhausted trying to keep up with the demands of teaching in an overcrowded classroom. It's taking a toll on my health and morale (Interviewee 1)

This showed that there was a need to address this issue by relevant authorities because if it persisted, it could limit the successful implementation of CBE in teaching and learning activities in schools. Addressing this issue urgently would ensure that teachers could deliver effective instruction and support students' academic success.

4.5.7 Lack of students motivation

The research study further investigated the lack of students' motivation as a barrier to implementing CBE in teaching and learning activities. The findings from the study unveiled that 58.3 % of the participants strongly agreed that lack of students' motivation was indeed a barrier while 25% agreed with the sentiment. On the other hand, only 4.2 % strongly disagreed and 12.5% disagreed with the notion that lack of students' motivation hindered the successful implementation of the CBE curriculum. In addition to the quantitative data obtained from the research study, several teachers were interviewed to further explore the issue of students 'motivation as a barrier in implementing CBE. A respondent acknowledged that:

Some of my students are not willing to learn. They have a cold attitude towards learning, and I have observed that such students struggle with keeping up with the pace of the CBE. They may fall behind in mastering essential skills which gives them challenges in progressing to more advanced material (Interviewee 5)

These results highlighted the significance of students' motivation in the context of CBE in primary schools teaching and learning activities. Lack of students' motivation is a huge concern because students' motivation is an essence in the teaching and learning activity. These findings aligned with findings by Lumonya (2020) who indicated that teachers expressed concerns about the lack of student buy-in and engagement in the CBE curriculum. This called a need for an intensive investigation on the causes of this phenomenon.

4.5.8 Teachers' being overworked by the CBE workload

Moreover, the study also investigated if being overworked was a barrier to implementing CBE as encountered by the respondents. The findings from the study revealed that 79.2% of respondents strongly agreed that being overworked is a barrier to implementing CBE while 20.8 % agreed with this statement. The fact that 0% either strongly disagreed or disagreed that they are being overworked by the new approach, implied that teachers may be overwhelmed by the demands of the new curriculum. One respondent even highlighted that:

I do want to provide personalized learning experiences for my students, but the demands on my time make it nearly impossible to do so. I believe in the principles of CBE, but with the amount of work I already have to do, it's difficult to find the time and energy to implement it effectively (Interviewee 3)

These results succinctly indicated that teachers recognised the challenge of being overworked. Having too much workload can adversely affect a successful implementation of the CBE curriculum as teachers need to prepare individualised learning plans for their students. This is akin to alludes by Komba and Mwandaji (2015) who advocated for small manageable CBE classes to allow teachers to accord individual attention for the successful development of the essential competencies.

4.5.9 Failure to draw the line between OBE and CBE

Furthermore, the research study revealed divided opinions among teachers with regard to the issue of failing to demarcate between OBE and CBE approaches. The results showed that 33.5% of respondents strongly agree that failure to draw a line between OBE and CBE is a challenge, while an equal percentage (33.5%) agreeing with the statement. On the other hand, 12.5% of teachers strongly disagree, and 20.8% disagree with the notion that the lack of differentiation between OBE and CBE is a hindrance to implementation. One respondent alluded that:

I can hardly tell the distinction between the new curriculum and the former except that we are now using rubrics as assessment standards. I won't lie to you I have actually not changed my teaching style. I'm further encouraged by the way they have designed the EPC exams syllabuses and specimen papers which are to me 100% similar to the style they used in OBE summative assessment (Interviewee 9)

Another respondent echoed the similar sentiments:

There is actually little difference between OBE and CBE. The only significant hallmark is the loads of work that this CBE curriculum has created for us which I do not understand why it had to be included. Otherwise, the content in the textbooks is similar to the former. Hence, I do not clearly understand what we need to change exactly! (Interviewee 7)

These responses of the respondents highlighted the complexity of the issue of demarcating between the two models. On the other hand, some teachers acknowledged the challenges they face due to confusion between the two models which may make them to struggle to align their teaching practices with the principles of CBE. This lack of clarity can result in inconsistent implementation and hinder students' ability to progress based on their competencies (Muneja, 2015).

4.5.10 Lack of professional learning communities

Also, the study explored if lack of professional learning communities poses a challenge in implementing the CBE. The research findings revealed that the majority of the respondents (79.2 %) strongly agreed that the absence of professional learning communities hinders the effective implementation of CBE, with a smaller percentage (12.5%) agreeing with the sentiments. Interestingly, a small percentage (4.2%) strongly disagreed with the assertion, while a slightly larger percentage (4.2%) simply disagreed. These sentiments were further supported by insights gathered during interviews conducted as part of the investigation. Several respondents expressed concerns about the lack of collaboration and shared decision-making within their schools, which they attributed to lack of active professional learning communities. One respondent noted that:

The lack of collaboration among us as teachers is another challenge here. I believe that without a strong professional learning community, it will continue to be difficult to have a meaningful discussion about how we can better implement the CBE in our classrooms. We need to work together to identify best practices and support each other in this process (Interviewee 10)

Another teacher echoed with similar sentiments and highlighted:

We need opportunities to learn from each other and build our capacity to effectively implement CBE. Without a strong PL, it's hard to stay current with the latest research and strategies in CBE (Interviewee 2)

Overall, these research findings underscored the critical role that professional learning communities play in supporting the successful implementation of CBE. That called for educational leaders to prioritize the development of collaborative and supportive learning environments within schools to empower educators and enhance student learning outcomes.

4.6 Chapter summary

The chapter presented, analysed and interpreted both the quantitative and qualitative results with the view to provide insights that answered the research questions in chapter 1. Hence, the research investigated themes around the following research objectives: approaches used to prepare teachers for the implementation of the CBE, methods used by teachers in implementing CBE in primary schools' teaching and learning activities, and challenges that are encountered by teachers in implementing CBE in primary schools' teaching and learning activities. In the analysis and interpretation, other scholars' notions were factored in, to create a platform for comparative analysis to contribute towards the closure of some gaps highlighted in chapter 2.

The next chapter will summarise the project, draw conclusions and outline the research recommendations.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In the previous chapter, the collected data was presented, analysed and interpreted. This chapter provides the summary of the project, conclusion and recommendations of the study. It will further suggest areas that may be considered for further research related to this study. At the end a chapter summary will be given and outlined.

5.2. Summary of the project

The project was organised into five chapters, each dealing with specific aspects and elements of the study. Chapter 1 presented the background or orientation of the study. The study was rooted on the realisation of gaps in teacher preparation for the implementation of the CBE in primary schools in Eswatini. The study therefore presented the problem of lack of research on how teachers are coping with the implementation of the new CBE curriculum which is being rolled out in primary schools across the country using the context of Mahlangatsha primary cluster schools focusing on the background of the study, statement of the problem, research questions, and research objectives, assumptions of the study, significance of the study, limitations and delimitations as well as definition of key terms used in the study. Chapter 2 provided a theoretical framework that informed the research investigation underpinning implementation of CBE in primary schools' teaching and learning activities. It further interrogated several empirical literatures to locate a place for the study in literature with the view to establish gaps to be filled by the study. Further, chapter 3 presented the research methodology outlining: the research paradigm, research approach, sample and sampling procedure, data collection and analysis procedure and research integrity that was upheld in the process of this research. The chapter also explained how quantitative and qualitative data would be collected, presented, analysed and interpreted through thematic analysis. Chapter 4 focused on data presentation, analysis and interpretation. The following were the major results from the study:

- The respondents acknowledged that some CBE approaches like seminars and workshops and alignment of pre-service training were used in preparing teachers for the

implementation of CBE in primary schools' teaching and learning activities. However, the respondents demonstrated the need for the improvement of other CBE implementation approaches such as provision of continuous training and formation of professional learning communities.

- The respondents acknowledged the use and essence of the following CBE implementation methods: design-based learning, problem-solving, project-based learning, inquiry-based learning, etc. in primary school teaching and learning activities.
- The respondents further cited the challenges that they encounter when implementing CBE in their teaching and learning activities. These include lack of adequate professional development on the CBE approach, lack of resources, overcrowded classroom and lack of clear understanding of the CBE approach (which stemmed from the poor provision of training and professional development opportunities), etc.

5.3 Conclusion

From the analysed and interpreted data in this study, it was revealed that the respondents felt that there were huge gaps that hindered the successful implementation of CBE in primary schools' teaching and learning activities. These include gaps in the approaches used in preparing teachers for the implementation of the CBE, as well as the CBE implementation methods. Also, the respondents acknowledged a wide range of challenges they encounter that limit their efforts for successful implementation of the CBE curriculum. Therefore, it can be concluded that to a larger extent the teachers' experience articulated that CBE as a pedagogical approach was being implemented in primary school teaching and learning activities in the selected cluster.

5.4 Recommendations

From the presented, analysed and interpreted results this study recommends that:

- there is a need for continuous training and professional development opportunities for affected teachers.
- challenges limiting the CBE curriculum implementation have to be addressed by schools and the responsible authorities for a smooth implementation process.

- regular inspection by the cluster's inspectorate could be paramount as it could assist teachers with the expertise to efficiently handle and deal with the demands of the CBE approach. This could be also helpful in conducting a needs assessment, analysis and evaluation of the curriculum implementation much earlier to promptly deal with the challenges and barriers to successful implementation of the CBE approach.

5.5 Areas for further research

This researcher suggested the following areas for further research:

- interrogation of teacher-preparedness for the implementation of the CBE curriculum.

5.6 Chapter summary

The chapter highlighted the summary of the research project, conclusions and recommendations of the study. Areas of further research were suggested by the researcher.

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APPENDICES

Appendix 1: Introductory letter from Bindura University of Science Education

P Bag 1020

ZIMBABWE

1038

BINDURA

Tel: 0271-7531 ext

Fax: 263-71-7616

CURRICULUM AND EDUCATIONAL MANAGEMENT STUDIES DEPARTMENT



BINDURA UNIVERSITY OF SCIENCE EDUCATION

Date: 16 April 2024

TO WHOM IT MAY CONCERN

NAME: Dlamini Cyprian

REGISTRATION: B226234B

PROGRAMME: Master of Science Education Curriculum Studies PART: 2.1

This memo serves to confirm that the above is a bona fide student at Bindura University of Science Education in the Faculty of Science Education.

The student has to undertake research and thereafter present a Research Project in partial fulfilment of the Master of Science Education Degree in Curriculum Studies programme. The research topic is: *Implementation of Competency-Based Education in Primary School Teaching and Learning Activities: Mahlangatsha Cluster Teachers' Experiences.*

In this regard, the department kindly requests your permission to allow the student to carry out his/her research in your institutions.

Your co-operation and assistance is greatly appreciated.

Thank you



(PHD) Y. Mudavanhu

CHAIRPERSON

Appendix 2: Request letter to the Ministry of Education and Training - Eswathini

Mr. Cyprian Dlamini

P.O. Box 439

Mankayane

4 June 2024

The Director

Ministry of Education and Training

P. O. Box 39

Mbabane

Dear Sir/ Madam

Request for permission to conduct an educational research study

This refers to the above subject matter

1. I humbly request to conduct an educational research in the following primary schools under the Mahlangatsha cluster: Mahlangatsha Methodist, Sibovu primary, Nhlotjeni primary, Magojela Primary, Ntfungula Primary, Ekuphakameni Central primary, Nyatsini Primary and Mavovokati Primary.

2. The research topic is, ***“Implementation of Competency-Based Education in Primary School Teaching and Learning Activities: Mahlangatsha Cluster Teachers’ Experiences.*** The research is done for the partial fulfilment of the requirements of a Master’s Degree in Education, a programme of study I am currently pursuing. The targeted respondents are Grade 1 to Grade 6 teachers in these schools.

3. I intend to start the data collection process from the Month of June 2024. I promise that the data that will be collected will be used only for academic purposes. For further details, you can contact me in these mobile numbers: 76734537/79734537 or Email: cypriansibostyledlamini@gmail.com

I hope my request will be granted.

Yours faithfully

Cyprian Dlamini

Appendix 3: Approval letter from the Ministry of Education and Training

1/1

The Government of the Kingdom of Eswatini



Ministry of Education & Training

Tel: (+268) 2 4042491/5
Fax: (+268) 2 404 3880

P. O. Box 39
Mbabane, ESWATINI

4 June 2024

The Headteacher

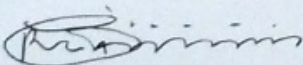
Mahlangatsha Primary Schools Cluster

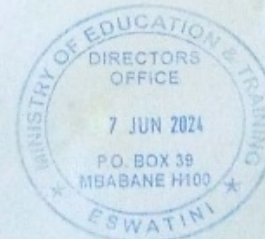
Through:
Manzini Regional Education Officer

Dear Sir/Madam

RE: REQUEST FOR PERMISSION TO COLLECT DATA FOR THE BINDURA UNIVERSITY OF SCIENCE EDUCATION - MR CYPRIAN DLAMINI

1. The Ministry of Education and Training has received a request from Mr. Cyprian Dlamini, a student at the Bindura University of Science Education that in order for him to fulfill his academic requirements at the University he has to collect data (conduct research) and his study or research topic is: "**Implementation of Competency Based Education in Primary Schools Teaching and Learning activities: Experiences from Mahlangatsha Primary Schools Cluster.**"
2. All details concerning the study are stated in the participants' consent form which will have to be signed by all participants before Mr Dlamini begins his data collection.
3. The Ministry of Education and Training requests your office to assist Mr Dlamini by allowing him to use the College as his research site. Data collection period is **one month**.


RICHARD DLAMINI
ACTING DIRECTOR OF EDUCATION AND TRAINING



Appendix 4: Consent form for the selected respondents

This is to confirm that I voluntarily consent to participate as a respondent in the research study highlighted above. I have had the opportunity to ask questions and have received satisfactory answers. I understand the general purposes, risks and method of this research study.

I consent to participate in the research project, and the following has been explained to me:

- The research may not be of direct benefit to me.
- My participation is completely voluntary.
- My right to withdraw from the study at any time without any implications to me.
- The risks including any possible inconvenience, discomfort, or harm as a consequence of my participation in the project
- The steps that have been taken to minimize possible risks.
- What I am expected and required to do
- Whom I should contact for any complaints with the research conduct of the research.
- Security and confidentiality of my personal information.

In addition, I consent to:

- Audio visual recording of any part of or all activities of the research if applicable
- Publication of results from this study on the condition that my identity will not be revealed.

Signature: _____

Date: _____

Appendix 5: Semi- structured questionnaire for selected respondents

I am a final year student enrolling for the Master of Science Education (Curriculum Studies) degree at Bindura University of Science Education. I am carrying a study on the implementation of competency- based education in primary school teaching and learning activities focusing on teachers' experiences in implementing the same in primary schools.

Instructions

You are requested to kindly answer all questions. Please do not discuss with anyone, but answer all questions honestly and truthfully. Carefully read each question, and where you do not understand, do not hesitate to seek clarity and assistance from the researcher. Please insert a tick in the column that indicate your best choice, and if you decide to change your initial response, insert and 'X' on your obsolete choice, and put a tick on your new choice. For confidentiality purposes, please do not endorse your name, initials or signature in any part of this questionnaire.

Section A: Personal profile

1. Sex Female Male
2. What is your age range in years? 20- 25
 26- 30
 31- 35
 36- 40
 41- 45
 46- 50
 Above 50
3. Professional qualifications PTD BEd MA/ MEd
4. Teaching experience (years) Below 5 6-10 11-15 16-20 Above 20

Section B

5. To what extent do you agree that the following approaches are used in your country to prepare teachers for the implementation of CBE in teaching and learning activities?

	Strongly Agree	Agree	Strongly Disagree	Disagree
Provision of professional development opportunities through continuous in-service training and refresher' courses.				
Organizing seminars and workshops to empower teachers on CBE approaches.				
Provision of opportunities to partner with other professionals in groups such as clusters and subject panels for collaborative training on CBE approach.				
Provision of pre-service training on CBE approach to new teachers in colleges and universities.				
Alignment of pre-service training with the CBE approach in teacher training institutions.				

Any other comments (if necessary)

Section C

6. To what extent do you agree that you do use the following CBE implementation methods in implementing CBE in your teaching and learning activities?

	Strongly Agree	Agree	Strongly Disagree	Disagree
Providing learners with authentic tasks that are based on real world problem solving.				
Giving learners project work that will trigger their problem solving and thinking skills.				
Conducting action research to evaluate the effectiveness of your teaching methods on learners' achievement				
Preparing personalized or individualized learning plans to accommodate diversity in your classroom				
Availing opportunities for learners to discuss in groups certain topics (peer- tutoring)				
Allowing your learners to often work together and share knowledge with each other.				

Any other comment (if necessary)

Section D

7. To what extent do you agree that the following are the challenges encountered by teachers in implementing Competency-Based Education in your teaching and learning activities?

	Strongly Disagree	Agree	Strongly Disagree	Disagree
Lack of teaching and learning resources.				
Lack of teacher training support.				
Lack of support from administration and other educational partners.				
Personal resistance to change to the CBE approach.				
Lack of clear understanding of the CBE approach.				
Overcrowded classrooms.				
Lack of student motivation				
Being overworked				
Failure to draw a line between OBE and CBE				
Lack of professional learning communities within your school and nearby				

Any other comments (if necessary)

Thank you for your cooperation

Appendix 6: Interview Guide for selected teachers

Welcome, and thank you for consenting to take part in this discussion. You have been requested to contribute as your assertion is highly regarded in this study. This discussion is designed to gain insights of your current experiences on the implementation of CBE in teaching and learning activities. I am going to ask you some questions which you are free to respond to in a way you consider fit. In case you do not feel comfortable in answering a question, you are at liberty to say so. Please note that your personal details and that of your school will not be included in the final report of this study.

1. In few words, briefly introduce yourself (age, professional qualification(s), teaching experience).
2. Would you please name the approaches you know that are used by the Ministry of Education and Training to prepare teachers in your schools to teach CBE?
3. Which ones of these approaches do you find to be most efficient in preparing teachers for teaching CBE? Why?
4. What do you think can be done by the Ministry of Education and Training to ensure continuous professional preparation of CBE teachers?
5. Which methods have you been trained to use to successfully implement CBE in your teaching and learning activities?
6. Which methods have you found to be most effective in implementing CBE in your teaching and learning activities? Why?
7. Which among these methods do you find not feasible in the implementation of CBE in your teaching and learning activities? Why?
8. What are some of the challenges you encounter as you implement CBE in teaching and learning activities?
9. What do you think the Ministry of Education and training can do to help you as CBE teachers to overcome the challenges encountered?
10. Do you have any other contribution to our discussion?
11. Thank you for your participation.