

**Formal Teacher Competence and its Effect on Learner Reading
Achievement in Multilingual Learning Contexts of Livingstone District in
Zambia**

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ABSTRACT

This study examined formal teacher competence and its effect on learner reading achievement in multilingual learning contexts of Livingstone District in Zambia. Guided by the Expertise, Translanguaging, and Pedagogical Content Knowledge (PCK) theories, the study addressed the following objectives: to examine the effect of teacher professional qualifications on learners' reading achievement in multilingual learning contexts, to analyze how professional qualifications influence the pedagogical content knowledge of teachers in primary schools, to identify challenges teachers face in teaching learners from multilingual learning contexts, and to examine strategies to enhance teacher competence. Adopting a mixed-methods research approach with a convergent parallel design, the study collected data through teacher interviews, classroom observations, and learner achievement tests. Findings revealed significant variations in learners' reading achievements based on teacher qualifications. Teachers holding Bachelor's degrees in Primary Education demonstrated the highest effectiveness (Cohen's $d = 1.33$), followed by those with Primary Diplomas (Cohen's $d = 0.85$) and those with degrees in English Language/History (Cohen's $d = 0.84$). These results highlight that higher qualifications specifically tailored for primary education lead to improved learner reading achievement in multilingual classrooms. Furthermore, the study found that teachers with relevant primary education degrees possessed better pedagogical and content knowledge to enhance reading achievement, compared to those with general secondary education degrees. Statistical analyses supported these findings, with the dependent variable approximating a normal distribution ($p = 0.583$) and the Levene test confirming homogeneity of variances across teacher qualification groups ($p > 0.05$). The One-Way Analysis of Variance (ANOVA) further revealed significant differences in learner performance based on teacher qualification. Learners taught by teachers with a Bachelor's degree in Primary Education had the highest mean score (37.57), followed by those taught by teachers with a Primary Diploma (36.04), and those instructed by teachers with a Bachelor's degree in English and History (35.20). These results reinforce the importance of teacher qualifications in shaping learner outcomes, emphasizing the advantage of teachers with a primary education background in multilingual settings. Additionally, the study identified key challenges affecting instruction, including resource shortages, language barriers, and overcrowded classrooms. To address these issues, the study recommends tailored teacher training programs, continuous professional development initiatives, and the development of multilingual teaching resources. The findings underscore the critical role of teacher competence in improving learner reading achievement, particularly in complex multilingual contexts.

Keywords: *Teacher Competence, Reading Achievement, Multilingual Learning, Pedagogical Content Knowledge, Teacher Qualification.*

DECLARATION

I, **MOYO STEPHEN**, declare that the study ‘Formal Teacher Competence and its Effect on Learner Reading Achievement in Multilingual Learning Contexts of Livingstone District in Zambia’ is my own work, and it has not been submitted for any degree or examination in any other University. All the sources I have used or quoted have been indicated and acknowledged in the references.

Signed:..... Date:.....

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APPROVAL

This thesis by **MOYO STEPHEN** is approved as a fulfilment of the requirements for award of a degree of Doctor of Philosophy in Applied Linguistics.

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DEDICATION

I dedicate this work to the incredible women in my life-my cherished mother, my beloved wife, my beautiful sisters, brothers, and my precious children. Throughout my academic journey towards accomplishing my goals, you have been my constant motivation and a boundless source of inspiration. This thesis stands as a testament to the profound influence you have had on shaping my life. Your unwavering support, compassion, and assistance are treasures that I deeply appreciate and hold dear.

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CHAPTER ONE

INTRODUCTION

1.1. Overview

This study examined the effect of Formal Teacher Competence on Learner Reading Achievement in Multilingual Learning Environments within Livingstone District, Zambia. The study primarily sought to evaluate the role of primary school teachers' competence in influencing the reading performance of grade one learners in these diverse linguistic settings. In this study, teacher competence is conceptualised as encompassing three dimensions: teacher qualifications, content knowledge, and pedagogical knowledge. These dimensions are central to understanding how effectively teachers address the complexities of teaching literacy in multilingual classrooms.

1.2. Background to the Study

Zambia is a culturally and linguistically diverse nation, home to 73 ethnic groups, each with its own language or dialect. English serves as the official language, predominantly used in governmental, business, and educational contexts. Additionally, seven Zambian languages namely Ibibemba, Silozi, Kiikaonde, Luvale, Cinyanja, Lunda, and Chitonga have been designated as regional official languages. These regional languages are employed as mediums of instruction from grades one to four, based on their prevalence in specific regions. For instance, Bemba is used in the Northern, Copperbelt, Luapula, and parts of Central and Muchinga Provinces, while Silozi predominates in the Western Province. Similarly, Chitonga is employed in the Southern Province, Cinyanja in Eastern and Lusaka Provinces, and Lunda, Luvale, and Kiikaonde in the North-Western Province (Banda, 2008). This bilingual education policy aims to build foundational literacy skills in learners' familiar languages, ensuring a smoother transition to English as the medium of instruction in grade five (Sampa, 2005).

The implementation of this bilingual educational approach aligns with Zambia's National Literacy Framework (NLF) of 2013, which provides a comprehensive strategy for literacy instruction. The NLF emphasises the importance of acquiring foundational literacy skills in a familiar language to enhance reading proficiency and overall learning outcomes. Similarly, the 1996 national policy on education, *Educating Our Future*, underscores the significance of early literacy acquisition in facilitating long-term academic achievement. Reading, as a

foundational skill, is central to all areas of learning, making its effective instruction a critical priority in Zambia's educational system.

Despite the progressive nature of these policies, challenges persist in implementing effective literacy instruction, particularly within Zambia's multilingual contexts. A key challenge lies in the competence of primary school teachers to deliver literacy lessons effectively in learners' familiar languages. Teacher competence in this context encompasses three critical dimensions: teacher qualifications, content knowledge, and pedagogical knowledge. These dimensions are crucial for addressing the complexities of teaching literacy in multilingual classrooms. However, the ability of teachers to navigate these complexities is often hindered by several factors, including inadequate training, high workloads, limited teaching resources, and negative attitudes towards the use of local languages in classrooms.

The literature consistently underscores the pivotal role of teacher competence in shaping educational outcomes. Research has shown that teacher competence significantly influences learner achievement, particularly in foundational skills such as reading. For instance, Nye, Konstantopoulos, and Hedges (2004) found that teacher competence accounts for over 20% of the variance in student achievement. Similarly, studies conducted in Sweden (Johansson, Myrberg, & Rosén, 2015) and Germany (Kiemer et al., 2020) demonstrated a strong correlation between teacher competence and learners' reading achievement. These studies highlight the importance of teacher content knowledge, a deep understanding of the subject matter and pedagogical knowledge, the application of effective teaching strategies in fostering learner success. In Zambia, Mwewa (2012) established a positive association between teachers' pedagogical content knowledge in mathematics and student achievement, further emphasizing the critical role of teacher competence in driving learning outcomes.

Teacher content knowledge encompasses not only mastery of the subject matter but also an understanding of common misconceptions and strategies to address them (Shulman, 1986). This dimension is particularly significant in literacy instruction, where foundational reading skills lay the groundwork for all subsequent learning. Similarly, pedagogical knowledge involves the ability to design and implement effective teaching strategies, adapt instruction to meet diverse learner needs, and assess learning outcomes. Mulenga and Sampa (2019) found that Zambian teachers with robust pedagogical knowledge were more effective in engaging learners in reading activities, particularly in multilingual settings. These teachers employed

differentiated instruction and culturally relevant materials to address the diverse linguistic needs of their students.

However, the unique challenges of teaching in multilingual contexts often limit the effectiveness of even the most competent teachers. Language barriers are among the most significant challenges, as many learners have limited proficiency in the language of instruction. This requires teachers to bridge the gap between the languages spoken at home and in school, a task that demands specialised skills and training. Unfortunately, many teachers in Zambia lack adequate training in managing multilingual classrooms. This deficiency is compounded by the scarcity of teaching resources tailored to multilingual contexts and the high workloads faced by teachers, who must cater to large class sizes and diverse linguistic needs simultaneously. Negative attitudes towards the use of local languages in education further undermine efforts to create inclusive learning environments.

Addressing these challenges requires targeted professional development and training programs that equip teachers with the skills necessary to teach effectively in multilingual settings. Research highlights the effectiveness of such programs in improving learner outcomes. For instance, Mumba, Banda, and Chabalengula (2015) demonstrated that Zambian teachers who received specialized training in managing multilingual classrooms significantly improved their students' reading performance. These programs emphasise strategies such as differentiated instruction, culturally relevant teaching, and interactive learning, enabling teachers to navigate the complexities of multilingual education more effectively. International studies by Darling-Hammond (2000) and Goldhaber (2002) further affirm that well-prepared teachers are among the most critical school-related factors influencing student achievement. In multilingual settings, where linguistic diversity creates additional complexities, the importance of teacher competence is even more pronounced.

Given these findings, there is a critical need for context specific research in Zambia to explore the relationship between teacher competence and learners' reading achievements in multilingual settings. In the current study, teacher competence is operationalised to include teacher qualifications, content knowledge and pedagogical knowledge. As Doležalová (2015) asserts, well prepared and competent teachers are essential for developing reading literacy, which is a trans curricular issue that underpins all areas of learning. This study aims to address this gap by examining the effect of teacher competence on the reading achievement

of grade one learners in Zambia, with the ultimate goal of informing policy and practice in multilingual learning contexts.

1.3. Statement of the Problem

Existing research on literacy skills in Zambia has predominantly focused on evaluating the literacy competences of learners across various educational levels (Matafwali, 2005; Matafwali, 2010; Zulu, 2019; Bwalya, 2019). While valuable insights have been gained from these studies, they largely emphasise learner performance without adequately addressing the role of teachers. A recent study by Mutolwa (2019) utilised interviews and document analysis to explore the preparedness of college lecturers in training teachers for literacy and language instruction. However, despite these efforts, a significant gap remains in understanding the competences of teachers themselves, which are important for the effective implementation of the literacy curriculum. Addressing this gap, the central problem of this study is articulated as follows: How does formal teacher competence affect learner reading achievement in multilingual learning contexts? This study seeks to bridge the knowledge gap by empirically investigating the effect of Formal Teacher Competences which in the study is conceptualised as encompassing three critical dimensions namely; teacher qualifications, content knowledge, and pedagogical knowledge.

1.4. Purpose of the Study

The purpose of this study was to investigate how Formal Teacher Competence encompassing teacher qualifications, content knowledge, and pedagogical knowledge affected the reading achievement of grade one learners in multilingual learning contexts in Livingstone district of Zambia.

1.5. Objectives of the Study

The study sought to:

- i. To investigate the effect of teacher professional qualifications on learners' reading achievement in multilingual learning contexts of Livingstone District,
- ii. To analyse how professional qualifications influence the pedagogical content knowledge of teachers in primary schools of Livingstone District,

- iii. To identify the challenges teachers face in teaching learners from multilingual learning contexts in primary schools of Livingstone District,
- iv. To examine strategies for enhancing teacher competence in multilingual learning contexts in primary schools of Livingstone District.

1.6. Main Research Question

How does formal teacher competence, encompassing teachers' qualifications, content knowledge and pedagogical knowledge, affect the reading achievement of learners in the multilingual learning contexts of Livingstone District, Zambia?

1.7. Specific Research Questions

The study addressed the following specific research questions:

- i. What is the effect of teacher professional qualifications on learners' reading achievement in multilingual learning contexts of Livingstone District?
- ii. How do professional qualifications influence the pedagogical content knowledge of teachers in primary schools of Livingstone District?
- iii. What challenges do teachers face in teaching learners from multilingual learning contexts in primary schools of Livingstone District?
- iv. What strategies can enhance teacher competence in multilingual learning contexts in the primary schools of Livingstone district?

1.8. Research Hypothesis

The following hypothesis was tested in the study :

- i. **Null Hypothesis (H0):** There is no significant relationship between teacher qualification and learner reading achievement in multilingual learning contexts of Livingstone District.
- ii. **Alternative Hypothesis (H1):** There is a significant relationship between teacher qualification and learner reading achievement in multilingual learning contexts of Livingstone District.

1.9. Significance of the Study

The findings of this study on the effect of teacher competence, encompassing teachers' qualifications, content knowledge, and pedagogical knowledge, may have profound implications for various stakeholders in the education sector. By identifying specific aspects of teacher competence that significantly influence reading achievement, the study offers actionable insights for improving literacy instruction. This information is crucial for designing targeted professional development programs that enhance teachers' skills and effectiveness, ultimately leading to better educational outcomes for learners. Moreover, the findings provide evidence based insights into the role of teacher competence in literacy development. These insights are essential for the Ministry of Education as it formulates policies that prioritise and invest in teacher training and professional development. Ensuring that teachers are well prepared to foster literacy skills among students enables the Ministry to make informed decisions that improves the overall quality of education.

In addition, the study may offer valuable guidance on the competences most beneficial for learner literacy outcomes. Colleges of Education can incorporate these findings into their curricula to enhance teacher education programs. This integration ensures that future teachers are equipped with the necessary skills and knowledge to address the literacy needs of their learners effectively. Furthermore, the study may contribute to the growing body of knowledge on teacher competence and literacy development, providing a solid foundation for future research. Researchers can build on these findings to explore similar relationships in diverse contexts or investigate additional factors influencing literacy achievement. This ongoing research may enrich the academic discourse on effective teaching practices and further our understanding of teacher competence.

The Directorate of Teacher Education and Specialised Services may also benefit from this study's insights. By understanding the key factors influencing learners' reading achievement, the Directorate can oversee and implement teacher education programs more effectively. These insights may allow for the refinement of strategies to ensure that teacher preparation aligns with the practical needs of fostering literacy among learners. Such alignment enhances the relevance and impact of teacher education programs.

Finally, the study's focus on the effect of teacher competence in a multilingual context like Zambia may have broader implications for educational policy and practice in similar settings. By identifying which aspects of teacher competence most significantly impact reading

achievement, the study provides a basis for targeted interventions at a national level. Additionally, it may contribute to the broader academic discourse on education in multilingual environments, offering a foundation for further studies and promoting a deeper understanding of effective teacher education practices.

1.10. Delimitation of the Study

Firstly, the geographical scope was defined, confining the investigation to primary schools situated solely within the Livingstone district. The study further narrowed its focus to a single primary school within a designated zone of the Livingstone district. The chosen school was selected based on the likelihood that its learners hailed from households where various Zambian languages were spoken and suitability of its teachers regarding their qualifications. This distinctive attribute was important for achieving the study's objectives.

1.11. Limitations of the Study

Due to the case study research design, the findings of this study cannot be generalised to other schools in the district, province, or country.

Operational Definitions

Content Knowledge : Understanding and mastery of subject matter that primary School teachers possess, particularly in literacy for effective acquisition of reading skills at grades one.

Grade One Learner : Primary school learner in Zambia's first grade

Formal Teacher Competence: encompasses teacher qualifications, content knowledge, and pedagogical knowledge.

Multilingual Learning Contexts: Classrooms characterised by learners with different language backgrounds and knowledge; English and other Zambian languages.

Pedagogical Knowledge : Understanding of how to teach effectively teaches reading in Chitonga to grade one learners in a multilingual context such as Livingstone District of Zambia.

- Reading Achievement** : The ability of grade one learners to recognize and manipulate the sounds in spoken words, correctly identify and read a list of grade-appropriate words, read a grade-level passage aloud with accuracy, appropriate speed, and proper expression, and to understand and answer questions about a grade-level passage they have read or listened to.
- Teacher Competence** : Teacher’s professional qualifications and pedagogical content knowledge.
- Translanguaging** : The practice of allowing the use different Zambian languages and English for instruction in a classroom.

1.12 Structure of the Thesis

Chapter 1: Overview and Background of the Study

The first chapter introduces the study on formal teacher competence encompassing teacher qualifications, content knowledge, and pedagogical knowledge and its effect on learner reading achievement in multilingual learning contexts within the Livingstone district of Zambia. It covers the study's background, problem statement, purpose, research objectives, research questions, significance, delimitations, limitations, operational definitions, structure of the dissertation, and provides a chapter summary.

Chapter 2: Review of Related Literature

Chapter Two presents a comprehensive review of literature from various parts of the world on the concept of teacher competence. This chapter explores the relationship between teacher competence and learner achievement, examining critical aspects such as teachers’ content knowledge and pedagogical knowledge. Additionally, it investigates the correlation between teacher experience and learner performance, as well as the impact of teacher preparation on educational outcomes.

Chapter 3: Theoretical and Conceptual Frameworks

The third chapter introduces the theoretical frameworks that underpin this study. Specifically, Expertise Theory, Translanguaging Theory and the Pedagogical Content knowledge (PCK)

were employed to guide the research. A comprehensive discussion on the applicability of these theories to the study is provided. Furthermore, the conceptual framework is delineated, with a clear presentation of the dependent and independent variables. Their causal relationships are thoroughly explained, establishing a foundation for the research hypotheses and subsequent analysis.

Chapter 4: Research Methodology

Chapter four outlines the methodology employed in this study. It begins with an exploration of the research paradigm, specifically pragmatism, and elucidates its foundational principles. The subsequent sections detail the research methodology, encompassing the research design, study population, sample size determination techniques, methods of data collection and instruments utilised, as well as the rigorous methods of data analysis employed. Furthermore, it addresses the critical aspects of validity and reliability concerning the gathered data, ethical considerations upheld throughout the research process, limitations inherent in the study, and concludes with a comprehensive summary of the chapter's findings and methodologies employed.

Chapter 5: Presentation of Findings

Chapter five comprehensively analyses and presents findings on the effect of formal teacher competence on learner reading achievement. It further explores how professional qualifications influence the pedagogical content knowledge of teachers. The chapter also examines challenges encountered by teachers in multilingual classrooms, their effects on competence, and subsequently, learner reading achievement. Strategies for enhancing teacher competence in multilingual learning contexts are proposed to improve learner reading outcomes.

Chapter 6: Discussion of Findings

Chapter six delves into a detailed discussion of the study's core findings. It critically examines the relationships and implications discovered between formal teacher competence and learner reading achievement in multilingual settings. Key themes from the data analysis are explored, offering insights into the complexities and nuances of teacher training content alignment with practical classroom needs. The chapter aims to deepen understanding and provide context for interpreting the study's results.

Chapter 7: Conclusion, Contributions, Recommendations, and Future Research

Chapter seven offers a conclusive summary of the study's findings and their contributions to the existing body of knowledge. It outlines practical recommendations derived from the research outcomes, aimed at enhancing teacher competence and improving learner reading achievement in multilingual educational settings. The chapter also identifies avenues for future research, suggesting areas where further exploration could advance understanding and practice in the field of education.

1.13 Summary of chapter

Chapter one of this study provided a comprehensive overview of the background and problem statement of the research. The purpose and significance of the study were also discussed in detail, highlighting the importance and relevance of the research topic. The research questions were also presented. This ensured that the research was directed towards achieving specific objectives and answering pertinent research questions. Moreover, the chapter also described the study area, which was the location where the research would be conducted. The details provided about the study area gave an insight into the context and environment of the research, which could aid in better understanding the results and their implications. Overall, the chapter laid the foundation for the subsequent chapters, providing a clear and concise introduction to the research topic. The following chapter delved deeper into the existing literature on the subject matter, examining previous studies and research in the field. The literature review chapter built upon the information provided in the previous chapter and further contributed to the research objectives of the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Overview

This chapter presents a review of literature on the following themes of the study from different parts of the world. The effect of teacher professional qualifications on learners' reading achievement in multilingual learning contexts, influence of professional qualifications and the pedagogical content knowledge of teachers in primary schools, challenges teachers face in managing multilingual learning contexts in primary schools and proposed strategies to enhance teacher competence in multilingual learning contexts. The study literature reviewed has research gaps drawn from each study to ground this work.

2.2 Effect of teacher professional qualifications on learners' reading achievement in multilingual learning contexts

Hsu, Ip, Arredondo, Tardif & Kovelman (2019) highlight the developmental process of reading acquisition is frequently conceptualized as a self-organizing mental network consisting of lexico-semantic, phonological and orthographical components. The developmental nature of this network varies across languages and is known to impact second-language learners of typologically different languages. Yet, it remains largely unknown whether such cross-linguistic differences interact within young bilingual learners of two typologically different languages. In the study, Chinese-English bilinguals and English monolinguals (ages 6-12, $N = 134$) born and raised in the US on their English language and reading skills including vocabulary, phonological and morphological awareness, and word reading were compared. A whole group and subgroup analysis was conducted on younger participants to examine the extent of the effect. In monolinguals, phonological abilities directly predicted English word reading. In contrast, in bilinguals, both phonological and morphological abilities made an indirect contribution to English literacy via vocabulary knowledge, even though bilinguals had monolingual-like language and reading abilities in English. These findings offered new insights into the flexibility of the phonological and lexical pathways for learning to read.

In addition, a study by Wealer, Fricke, Loff & Engel de Abreu (2022) explores whether foundational skills of reading and spelling in preschool (age 5-6) predict literacy skills cross-linguistically in an additional language in Grade 1 (age 6-7). A sample of linguistically

diverse preschool children completed tasks of phonological awareness, letter-sound knowledge, verbal-short term memory, rapid automatized naming, and lexical knowledge in the language of preschool instruction Luxembourgish. The children were followed-up in Grade 1 where literacy skills were assessed in the language of schooling, i.e., German, after five months of literacy instruction. German was a non-native language for all children. Longitudinal correlations confirm that individual differences in single word/pseudoword reading and spelling in German in Grade 1 can be predicted by all the foundational literacy skills that were assessed in Luxembourgish. Path analyses showed that phonological awareness in Luxembourgish emerged as the strongest unique predictor of Grade 1 literacy skills in German. The second unique preschool predictor of Grade 1 literacy skills was letter-sound knowledge. Results are consistent with the view that literacy development in an additional language build upon similar building blocks as literacy acquisition in a first language, at least for languages that are typologically close. However, current findings suggest that respective contributions between predictors and literacy skills in children learning to read in an additional language may vary from patterns observed in studies with children acquiring literacy in their first language.

The study by Pesales & Apohen (2025) investigated the reading difficulties encountered by Grade One learners in District 1 of the Schools Division of Bago City for the school year 2023-2024 and examined their impact on academic performance. Utilizing a descriptive-correlational research design, the study assessed 231 Grade One learners from five elementary schools using a modified Reading Difficulty Checklist. Findings indicate that learners experience moderate difficulties across five key areas of reading: phonemic awareness, phonics, fluency, vocabulary, and comprehension, with comprehension posing the greatest challenge. The study also reveals that demographic factors such as age, sex, parents' educational attainment, and family income significantly influence reading proficiency. Additionally, a strong correlation was found between reading difficulties and academic performance, highlighting the need for targeted intervention programs. Based on the results, an intervention plan is proposed to enhance reading skills and improve academic outcomes for young learners. The study under review was not conducted in a multilingual classroom like this study. It also did not look at on professional qualifications influence the pedagogical content knowledge of teachers in primary schools of Livingstone District.

Moreover, research by Jasińska, Wolf, Jukes & Dubeck (2019) opines that literacy is a powerful tool against poverty, leading to further education and vocational success. In sub-Saharan Africa, schoolchildren commonly learn in two languages African and European. Multiple early literacy skills (including phonological awareness and receptive language) support literacy acquisition, but this has yet to be empirically tested in sub-Saharan Africa, where learning contexts are highly multilingual, and children are often learning to read in a language they do not speak at home. We use longitudinal data from 1,100 schoolchildren spanning three groups of native languages [Mijikenda languages (Digo, Duruma, and Chonyi & Giriama), Kiswahili, Kikamba] in coastal Kenya (language of instruction: Kiswahili & English). We find that baseline phonological awareness and receptive language are differentially important in predicting literacy skills in English and in Kiswahili and these relations are moderated by the degree of shared cross-linguistic features between home and school languages. Importantly, the relative importance of these factors changes over development. Implications for language development and literacy acquisition in linguistically diverse contexts are discussed.

A study by Wawire, Barnes-Story, Liang & Piper (2024) highlight that many children living in linguistically diverse low- and middle-income countries learn to read and write in multiple languages. Recent research provides implications for effective reading instruction with multilingual learners (e.g., Hall et al. in *New Dir Child Adolesc Dev* 166:145-189, 2019). However, there is limited empirical evidence on effective instructional practices for multilingual early grade learners who are at-risk of reading failure. The goal of our research was to examine the effect of a structured literacy intervention on literacy skills for a cohort of first grade children at-risk of reading failure as they learned to read in Kiswahili and English. Data were drawn from a larger longitudinal randomized control trial of the Primary Math and Reading Initiative in four counties in Kenya (Kiambu, Nakuru, Nairobi, and Kisumu, with 165 at-risk children identified (71 control; 94 treatment). Children in the treatment condition received daily structured instruction in letter knowledge, phonological awareness, decoding, word reading, and reading comprehension in Kiswahili and English. Children in the control condition continued with the business-as-usual approach, typically whole word instruction. Path analysis was used to examine the intervention effect of the PRIMR program through second grade. The path models further explored the within- and cross-language relationships of variables that predict oral reading fluency over time. Our analyses revealed that children in the treatment condition exhibited significantly higher growth in letter-sound knowledge for

both Kiswahili and English. While growth was also observed for non-word fluency in Kiswahili and English for both treatment and control groups, there were no significant findings for this skill that can be attributed to the PRIMR intervention. Our analysis revealed that cross-linguistic elements of English reading skills contribute to oral reading fluency skills in Kiswahili. We discuss implications for aspects of structured literacy instruction essential for multilingual learners at-risk of reading failure.

Research by Hofer & Jessner (2016) looks into the effects of early multilingual education by investigating linguistic knowledge and metalinguistic awareness in young learners at the primary level. The study aims to establish whether children in multilingual education programmes perform higher on a measure of metalinguistic awareness and with regards to their L1 Italian, L2 German and L3 English than children who receive traditional second and foreign language instruction. Two groups of elementary school pupils recruited from 2 Italian institutions in South Tyrol (Italy), each with multilingual and traditional instructional streams, participated in the study. All the participants completed a metalinguistic awareness test (in their L1 Italian), a German and an English test. The results of the study show the significant positive effects of early multilingual learning and a clear overall superiority for the subjects in the multilingual programmes as compared to those in the regular programmes. The results provide support not only for the effectiveness of multilingual education but also for cognitive advantages in multilingual children.

Gorter & Cenoz (2016) establish direct links between language policy on the one hand and assessment in multilingual contexts on the other hand. The study illustrates the bi-directional relationship with the examples of the USA, Canada, and the Basque Country. That comparison is placed in the context of the changing views about the use of languages in education where a shift can be observed away from an emphasis on separating languages to approaches that more closely suit daily practices of multilinguals. This concerns a shift from language isolation policies in language teaching and assessment towards more holistic approaches that consider language-as-resource and promote the use of the whole linguistic repertoire. However, the implementation of programs based on holistic approaches is limited and application in language assessment modest. Traditions and monolingual ideologies do not give way easily. Researchers show some examples of creative new ways to develop multilingual competence and cross-lingual skills. The assessment of interventions with a multilingual focus point to a potential increase in learning outcomes. Multilingualism is a

point of departure because in today's schools, students who speak different languages share the same class, while at the same time learning English and other languages. Researchers conclude that holistic approaches in language education policy and multilingual assessment need to substitute more traditional approaches.

Kirsch, Duarte & Palviainen (2020) conducted a study on language policy and professional development focusing on pedagogical skills, beliefs and agency are essential to ensure the sustainability of multilingual teaching approaches. This chapter begins with an overview of research studies on languages policies, teacher agency and beliefs with a focus on multilingual settings. The intertwining of policy and teaching practice is then illustrated by means of the Finnish case demonstrating how recent ECEC policies advocating diversity and plurilingualism have gradually changed teacher beliefs. The second part of the chapter focuses on professional development (PD) in so far as it is able to support teachers in implementing policies, changing pedagogical practices and amending beliefs. This section presents different pathways for professional learning and explores the effectiveness of various models of professional development. These observations are taken up in two empirical studies on teachers' professional development within multilingual preschool classes in Luxembourg and primary schools in the Netherlands. The interview and observation data provided in the two contexts point to the centrality of teacher beliefs and agency in moving towards multilingual practices and sustainable changes. Furthermore, it unveils the ways in which teachers' beliefs, knowledge and practices change over time and effective PD programmes can support teachers in interpreting policies and developing new practices.

Chaudhary (2018) study comprehensively reviews bilingual education's impact on academic achievement and language proficiency among elementary school students. It highlights the theoretical foundations and cognitive benefits of bilingual programs, which enhance executive function skills and academic performance in subjects like mathematics, reading, and science. The review shows that well implemented programs can lead to balanced proficiency in both native and second languages and cognitive advantages such as improved problem-solving, multitasking, and mental flexibility. However, the effectiveness of bilingual education depends on program quality, teacher qualifications, and societal attitudes towards bilingualism. High-quality programs feature structured curricula, ongoing teacher professional development, and strong community support. Challenges include a shortage of qualified teachers, insufficient resources, and varying societal and political attitudes. The

paper offers recommendations for best practices, such as standardized training programs for educators, increased funding, and promoting positive attitudes towards bilingualism. Future research should focus on longitudinal studies and innovative instructional strategies to further enhance the effectiveness of bilingual education.

Omidire & Morgan (2023) contend that the ability to read is an integral part of learning and successful reading facilitates achievement across the curriculum. However, literacy levels continue to be low especially in emerging economy contexts where often the language of teaching and learning differs from the home languages of the learners. Globally, there is a lot of focus on international comparative assessments of reading abilities across grades. While it is important to determine the reading levels of learners relative to their peers, a closer examination of the teaching of pre-reading skills is equally important and should be given more attention. The aim of the study was to explore in-depth the methods used to teach pre-reading skills and strategies for learners' support in multilingual contexts. The study was conducted in a high risk, high need inner-city school in Pretoria using qualitative research methods. Two Grade 1 teachers from one school with a total of 70 learners participated in Gauteng, South Africa. Data was collected using structured non-participatory classroom observations, semi-structured interviews and document analysis. The findings of this study show that teachers used instructional methods such as synthetic phonics approach, multisensory teaching, dramatization and promotion of subtractive multilingualism to develop phonemic awareness and oral language competency. There was evidence of limited teacher theoretical knowledge and other challenges related to lack of adequate resources for effective teaching and learning. Specialised training for teaching pre-reading skills, mentoring and continued professional development were some of the strategies identified as potentially beneficial to the teachers.

A study by Springer (2023) examines the effects of increasing collective teacher efficacy (CTE) on student achievement, with a particular focus on closing achievement gaps for multilingual learners (MLs). Data collected over time at the study school showed the existence of an achievement gap between MLs and the majority population. To close the achievement gap, it was necessary to prioritise culturally responsive teaching (CRT) engagement strategies that allow MLs to become more successful in the classroom. It was also essential to increase teacher capacity and early literacy research to enhance literacy skills of K-2 students. Another crucial aspect was the examination of teachers' deficit thinking

behaviors that hinder MLs' academic success. Through interviews and surveys on CTE variables and teacher perceptions and attitudes toward MLs, targeted interventions were designed to build teacher knowledge in these three areas. This study was conducted using an insider action research model, utilizing a design-based approach to develop the interventions tailored to the specific needs of the organization in the study. The findings of this study showed how professional development, the use of professional learning communities, and peer coaching can contribute to an increase in CTE, awareness of biases, and teachers' use of CRT engagement strategies in an organization so that student achievement will increase, and achievement gaps will lessen for MLs.

Ehri & Flugman (2018) show that teaching systematic phonics effectively to beginning readers requires specialized knowledge and training which many primary grade teachers lack. The current study examined effects of a year long mentoring program to improve teachers' knowledge and effectiveness in teaching phonics and the extent that it improved students' achievement in reading and spelling. Teachers in urban, lower SES schools completed a 45 h course followed by 90 h of in-school training. Mentors ($N = 29$) worked with kindergarten, 1st, 2nd, and 3rd grade teachers ($N = 69$) twice a week for 30 weeks during the year. Each visit included a 45 min prep period plus 45 min of modeling and feedback in the classroom. Mentors taught teachers how to provide systematic phonics instruction to their students ($N = 1,336$). Monthly ratings by mentors revealed that teachers improved their phonics teaching skills with many reaching the highest ratings by May. Teachers who were non-native speakers of English took a bit longer to learn the English sound system for letters, mainly because they lacked sufficient knowledge of English sounds and had to learn them. Given the increasing diversity of the teacher work force, future research is needed to study this difficulty, its solution, and impact on students. Teachers' agreement with principles of phonics instruction remained strong or increased from fall to spring. Students' reading and spelling skills showed large gains during the year and far exceeded effect sizes from comparable data sources. Students met grade-level expectations at the end of kindergarten and first grade but fell short in second and third grades. General education students outperformed bilingual/ELL and special needs students although all subgroups made large gains. Findings reveal the effectiveness of an intensive mentoring model of professional development applied to a subject that is difficult to teach and to a student population known for lower reading achievement. Findings point to the need for better pre-service teacher

preparation coupled with appropriate curricula and PD from districts in order to improve students' reading achievement.

Vega, Howell, Kaminski & Bates (2024) conducted a systematic literature review synthesizing 49 studies exploring teacher professional development (PD) focused on the education of multilingual learners (MLs). Specifically, we examined PD design for in-service mainstream classroom teachers serving MLs in early elementary grades. We followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines for transparent reporting in systematic reviews, including the four phases of identification, screening, eligibility, and inclusion. Findings show that although the content of PD has covered foundational literacy areas, such as vocabulary and comprehension, more attention is needed on integration of culture and MLs' linguistic repertoires. Results also show that PD with positive outcomes is ongoing, collaborative, and includes multiple stakeholders. However, there is room for the inclusion of family and teacher voice. We conclude by arguing that future research on PD within the context of ML education should explore long-term impact of interventions on teachers and students and focus on leadership roles to expand instructional capacity for MLs.

Using a randomized controlled trial, Babinski, Amendum, Knotek, Sánchez & Malone (2018) tested a new teacher professional development program for increasing the language and literacy skills of young Latino English learners with 45 teachers and 105 students in 12 elementary schools. School-based teams randomly assigned to the intervention received professional development focused on cultural wealth, high-impact instructional strategies, and a framework for collaboration. We observed each teacher three times during the school year and assessed students individually at the beginning and end of the school year using the Woodcock Muñoz Language Survey (WMLS). Using an intent-to-treat (ITT) analysis, we found effects for the intervention on teachers' implementation of high-impact instructional strategies and students' language and literacy skills.

Pittman, Zhang, Binks- Cantrell, Hudson & Joshi (2020) highlighted that teachers' knowledge is a critical component to students learning to read proficiently. The present research sought to determine the literacy knowledge of 150 urban, elementary school teachers from 11 low socio-economic schools in one of nation's largest cities. Teachers' ability to understand concepts relating to phonological awareness, phonemic awareness, alphabetic principle/phonics, and morphology as well as their knowledge about teaching these

fundamental skills were assessed through a standardized measure. Using exploratory factor analysis to understand the latent constructs underlying the survey scores and hierarchical linear modelling on factor scores of each construct, the results revealed that teachers located in low socio-economic status schools did not have explicit knowledge needed to effectively teach struggling readers. Although the teachers possessed a high level of knowledge regarding syllable counting skills, they lacked knowledge related to morphology. Practical implications are provided to assist teachers in increasing their literacy knowledge.

Osuji & Everlyn (2019) established the implications of multilingual education on teaching and learning in culturally diverse community in Nigeria. The study adopted mixed methods research paradigm, specifically, the convergent parallel triangulation design. It targeted teachers and students. The sample size of the study consisted of 40 teachers and 100 students. The study employed simple random and purposeful sampling techniques in selecting the schools and participants of the study. The researchers used interview guide and questionnaire for data collection. For data analysis, the researchers transcribed the interviews, coded the data, categorised the data, derived themes from the categories, interrelated the themes, and interpreted the meaning of the themes; then related them to the quantitative data. For the quantitative data, they focused on the descriptive statistics. The Findings of the study showed that multilingual education, which is the use of multiple languages in the process of teaching and learning for easy comprehension of concepts is beneficial to the education sector. Therefore, it should be encouraged and promoted. However, that teacher factor is the main challenge that the phenomenon is faced with. The study then recommended that in-service training of teachers and proper monitoring of the education policy on the application of multilingual education should be strictly adhered to. The study under review was conducted was not conducted in a primary school as this study.

Deng, Kiramba & Viesca (2021) study examined factors linked to novice general education teachers' perception of their preparedness to work with multilingual learners in the classroom. Using a multilevel modelling approach, we examined factors at the teacher and school levels using two AY 2015 to 2016 datasets: The National Teacher and Principal Survey from the National Center for Education Statistics and the Civil Rights Data Collection from the Office of Civil Rights. The results show that teacher perception of preparedness was positively associated with teacher education courses on working with multilingual learners, supports received during the first-year teaching and the number of multilingual learners teachers

worked within their classrooms. Similarly, the concentration of multilingual learners at the school level had a positive impact on preparedness. Overall, it appears that experiences both learning about and working with multilingual learners are positively associated with novice general education teachers' perceptions of preparedness to work with multilingual students.

Hungi, Njagi, Wekulo & Ngware (2018) study investigated the relationship between the language of instruction and learning of literacy skills among pre-primary school children in a multilingual environment. The sample consists of 1867 learners from low-income urban households, attending 147 low-cost private pre-primary schools located in low-income areas of Nairobi, Kenya. About one-half (48.4%) of the learners were taught basic aspects of literacy such as letter naming, letters sounds and rhymes using Kiswahili (a local lingua franca) while the other half (51.6%) were taught these aspects using English. The learners involved in this study come from different ethnic backgrounds and hence Kiswahili and English are not their first languages. This study poses the question: In a multilingual environment, is there an advantage in learning literacy skills using a second language (in this case Kiswahili) over a third language (English)? Relationship between literacy scores and language of instruction is examined using descriptive techniques. This relationship is further examined using multivariate techniques controlling for learner sex, classroom resources, class size, teacher pre-service training, and teacher years of experience, among other variables. Results show that learners taught literacy skills using Kiswahili significantly outperformed their counterparts taught using English (at $p < 0.05$ level) even after adjusting for the effects of other factors in the analyses.

Nambao (2024) study investigated teachers' pedagogic practices of teaching oral reading fluency (ORF) to Grade 5 learners in selected classrooms of Kitwe, Lusaka, and Livingstone Districts in Zambia. Four theoretical lenses of the learning theories guided this study - automaticity theory, information processing model, behaviourism theory, and word learning theory. The study adopted an interpretive paradigm and a qualitative approach and employed a descriptive design. 18 Grade 5 teachers selected from Kitwe, Lusaka, and Livingstone districts, participated in the study. Data were gathered using interviews, class observation, and document analysis, and were thematically analysed. The study revealed that teachers do not teach ORF in upper primary schools because they view ORF as a foundation skill that is only taught in lower primary schools. The study also established that teachers have content knowledge but lack pedagogic knowledge to teach ORF. Despite recognizing its importance,

teachers doubt its effectiveness for struggling learners in Grade 5 classrooms. The study concluded that this reluctance to teach ORF stems from a lack of instructional knowledge on effective fluency-promoting strategies. Instead, teachers tend to mislabel comprehension instruction as ORF, revealing a phenomenon akin to the Dunning-Kruger effect, where they overestimate their knowledge in unfamiliar areas. The study presented ORF instructional strategies and interventions and a reading fluency model lesson as measures to mitigate learners who face challenges in reading. The study recommends systemic changes at teacher and policy levels. The study under review was conducted in different provinces and districts while this study was conducted in Livingstone district and one school.

Pali (2020) conducted a study to establish whether teachers were adequately prepared to transition learners from Zambian language literacy to English literacy in Grade 3. The study employed a mixed method descriptive design which involved both quantitative and qualitative methods. Data was collected using questionnaires, lesson observations, interviews and document analysis. A random selection of 6 schools was done in Livingstone District while purposive sampling technique was used to select 6 Heads of schools, 3 Zone Inset Coordinators (ZICs), 6 School Inset Coordinators (SICs), 112 teachers and 1 District Resource Centre Coordinator (DRCC). The study revealed that teachers were not adequately trained during in-set programmes such as workshops, Continuing Professional Development (CPD) meetings and Teacher Group Meetings (TGMs). There was no new English programme or textbooks that were introduced for Grade 3. Older teachers are using the Step into English (SITE) introduced during the Primary Reading Programme era to teach English literacy. There are also some teachers using Teaching Handwriting, Reading and Spelling Skills (THRASS) cards while new teachers fall back on techniques from the Primary Literacy Programme used to teach Zambian languages and transferred them to English. Another finding was that the teachers' attitude to the introduction of English at Grade 3 differed. Some felt that English should be introduced in Grade 1 while others felt that it should be delayed at least up to Grade 4 or 5. The study under review was on teacher preparation while this study was on how professional qualifications influenced the pedagogical content knowledge of teachers in primary schools of Livingstone District which was not established in the earlier study.

Muzeya & Mkandawire (2023) study analysed classroom language practices in multilingual primary schools of Choma district of Zambia and was informed by the three-language

orientation theory (Ruiz, 1984). The adopted the qualitative mode of inquiry and used the descriptive research design. The sample size was 852 participants comprising, 16 teachers who were teaching grade 1 and 2 classes in the lower primary section and 836 pupils from four lower primary classes. The findings revealed that teachers used translanguaging to promote linguistic inclusivity and diversity. Additionally, the study showed that most grades 1 and 2 classes of Choma district were multilingual in the sense that both teachers and learners were able to speak more than one language. Furthermore, the study found that teachers encountered communication difficulties when instructing learners from various linguistic backgrounds in Tonga because learners found it difficult to understand the language of instruction (Tonga) consistently especially first graders. As a result, some teachers had to switch from Tonga to other languages spoken by learners in class to foster their understanding. The study under review was conducted in Choma while this study was conducted on professional qualifications influence the pedagogical content knowledge of teachers in primary schools of Livingstone District.

Additionally, Nyimbili (2021) study assessed the impact of translanguaging as pedagogical practice on literacy levels among Grade One learners in multilingual classrooms of Lundazi District of Zambia. The study was guided by the Three Language Orientations Theory, Critical Discourse Analysis Theory and Bernstein's code and pedagogical discourse theory. The study adopted the pragmatism paradigm and employed a multiphase stage design. The study involved two classes and one teacher. An experimental class was treated with translanguaging practices while the second class was a control class. One teacher taught literacy in the two classes and the sample was 83 participants broken down as 41 pupils per class who wrote the pre and posttests as well as one teacher. Standardised regional tests were used to collect data from the two classes while classroom observation, field notes and interviews with the teachers were used to collect qualitative data. Quantitative data from the tests was analysed using SPSS version 21 and a Levene's test provided the means and compared them to understand the significance of the results in the study. Qualitative data was analysed thematically. The study findings revealed that the Post experimental test results showed higher average mean scores for the experimental group ($M=15.10$) than the control group ($M=11.71$). The Cohen's $d=0.98$ for the posttest showed the large effect size above .8. The performance of learners in the experimental group was significantly different from the control group [$t(52.960) = 4.454, p < 0.001$]. Thus, the difference in literacy performance can be attributed to the translanguaging practices which were used to teach literacy in the

experimental class. The study under review was conducted in Lundazi district and it was an experiment while this study did not experiment a teaching method.

2.3 Influence of professional qualifications on the pedagogical content knowledge of teachers in primary schools

Depaepe, Torbeyns, Vermeersch, Janssens, Janssen, Kelchtermans & Van Dooren (2015) conducted a study to establish teachers' content and pedagogical content knowledge on rational numbers. To effectively deal with students' difficulties, teachers should have appropriate content knowledge (CK) (i.e., conceptual and procedural knowledge about the rational number domain), as well as pedagogical content knowledge (PCK) (i.e., knowledge of students' misconceptions and buggy procedures about rational numbers and of multiple representations to prevent and/or remedy these misconceptions and buggy procedures. The descriptive analyses revealed that prospective teachers had limited CK about rational numbers ($M = .79$; $SD = .13$), especially when taking into account that the level of the items was restricted to that of upper elementary school curriculum. Rational numbers are amongst the most difficult topics in the elementary and secondary school curriculum and teaching them requires an appropriate knowledge base of teachers to properly deal with students' difficulties. We investigated prospective teachers' content knowledge (CK) and pedagogical content knowledge (PCK) on rational numbers, the relationship between CK and PCK, and differences in CK and PCK among prospective elementary teachers (trained as general classroom teachers) and lower secondary teachers (trained as subject-specific classroom teachers). The results revealed gaps in prospective teachers' CK and PCK, a positive correlation between CK and PCK, and a better CK but not PCK for secondary compared to elementary school teachers. Research has shown that teachers' CK and more so their PCK are important determinants of the pedagogical quality of their teaching as well as of students' progress. The study review was topic specific while this study was based on teachers who taught grade 1 learners in multilingual classes of Livingstone town.

Another study was conducted by Blömeke, Busse, Kaiser, König & Suhl (2016) to establish the relation between content-specific and general teacher knowledge and skills. The relation between teacher knowledge and skills and how these were influenced by teacher education was examined with 171 secondary mathematics teachers. Six paper-and-pencil and video tests were applied to assess content knowledge, pedagogical content knowledge and general pedagogical knowledge as well as diagnostic, teaching and classroom management skills. It

was hypothesized that the relation between these six cognitive facets was best approximated by distinguishing between levels of generalizability across different mathematics teaching situations. The distinction of two dimensions and their differential relation to classroom performance point to the necessity to train both dimensions carefully and tailored to teachers' strength and weaknesses. This conclusion applies to initial teacher education but also and may be even more strongly given the closer link to practicing teachers to professional development activities. In this context, the low relation between stable and situation-specific cognitions together with the low mean on the first dimension of lower-secondary teachers compared to upper-secondary teachers is the most worrying result of this study. It points to serious disadvantages of the first group which can be related back to fewer opportunities to learn during teachers' university education. In many countries such differences in teacher education programs may exist and it is very probable that they result in different outcomes, too. It seems to pay off to offer rich mathematics-specific opportunities to learn so that knowledge and skills can be developed.

Also, a study by Meschede, Fiebranz, Möller & Steffensky (2017) explores the structure of teacher cognition by investigating the relation of teachers' professional vision with pedagogical content knowledge and beliefs in the domain of elementary science education. The study was administered to a sample of master teacher students as well as experienced in-service teachers to investigate whether the interrelations between teachers with different levels of expertise. An investigation using a video-based assessment approach on professional vision revealed that all three constructs are substantially associated but still separable. Latent correlations did not differ across master students ($n = 113$) and in-service teachers ($n = 110$) though in-service teachers had greater professional vision, pedagogical content knowledge and less trans-missive beliefs. This suggests a stable structure of teacher cognition. Moreover, results indicate that especially trans-missive beliefs hinder observing classroom situations in a professional way.

In addition, König, Lammerding, Nold, Rohde, Straub & Tachtsoglou (2016) conducted a study to assess teachers' professional knowledge for teaching English as a foreign language. The study shows that despite an increasing research interest in subject-specific teacher knowledge, the scientific understanding regarding teachers' professional knowledge for teaching English as a foreign language (TEFL) is very limited. This study therefore applies standardized tests to directly assess content knowledge (CK), pedagogical content knowledge

(PCK), and general pedagogical knowledge (GPK) of pre-service teachers for TEFL in Germany from different programs and stages during initial teacher education (during their master's studies at university and at the end of their induction phase). Structural analysis provides evidence that teacher knowledge with respect to TEFL is a multidimensional construct and PCK is closely related to both CK and GPK. Test scores vary across pre-service teachers from different programs and stages, which adequately reflect differences in the learning opportunities they had during teacher education.

Additionally, Iserbyt, Ward & Li (2017) investigated effects of improved content knowledge on pedagogical content knowledge and student performance in physical education. Eight students in each class were blocked into low, average, and high skilled students ($n = 64$) were observed. Our quasi-experimental design used treatment; class nested within conditions, skill levels, and interactions among conditions, gender, and skill levels. The results showed that the teacher's PCK was substantively different before and after the workshop. Higher counts of descriptions, analogies/metaphors, cues, and specific congruent feedback were observed in the experimental classes compared to the comparison classes. Higher counts of correct demonstrations and lower counts of partially correct demonstrations were observed in the experimental groups compared to the comparison. In the experimental classes, the teacher selected 80 tasks that were developmentally and principle (i.e. in accordance with Play Practice) appropriate compared to 12 in the control. Participants in the experimental group performed a higher percentage of correct trials and less incorrect trials relative to those in the comparison group. Students from all skill levels in the experimental groups performed significantly better than those in the comparison groups. This study demonstrates that improved SCK changes PCK and student performance. The changes in the teacher's PCK from comparison groups to the experimental classes differed in two areas: how tasks were presented and the appropriateness of the tasks selected for student performance. The use of a knowledge packet-CK workshop in professional development for both pre-service and in-service teachers requires further investigation in terms of the content and organization of the knowledge packets and in terms of developing packets for other physical education content areas besides badminton. The study under review does not specify the sample which was used while this study was conducted on grade 1 teachers and pupils in the Zambian primary schools.

Bold, Filmer, Martin, Molina, Rockmore, Stacy & Wane (2017) conducted a study to establish whether what teachers know and do matter from primary schools across Africa. The study used data from nationally representative surveys from seven Sub-Saharan African countries, representing close to 40 percent of the region's total population, to investigate possible answers to this policy failure by quantifying teacher effort, knowledge, and skills. Averaging across countries, the paper finds that students receive two hours and fifty minutes of teaching per day or just over half the scheduled time. In addition, large shares of teachers do not master the curricula of the students they are teaching; basic pedagogical knowledge is low; and the use of good teaching practices is rare. Exploiting within-student, within-teacher variation, the analysis finds significant and large positive effects of teacher content and pedagogical knowledge on student achievement. These findings point to an urgent need for improvements in education service delivery in Sub-Saharan Africa. They also provide a lens through which the growing experimental and quasi-experimental literature on education in low-income countries can be interpreted and understood, and point to important gaps in knowledge, with implications for future research and policy design.

Further, Venkat & Spaul (2015) conducted a study to establish what is known about primary teachers' mathematical content knowledge in South Africa. Using the South African SACMEQ 2007 data we analyze the test responses of 401 grade 6 mathematics teachers drawn from a nationally representative sample of South African primary schools. While not designed with reference to the South African mathematics curriculum specifically, this test consisted of 42 multiple-choice items drawn from several content domains. The study findings from previous analyses of the SACMEQ 2007 data found that the ways in which teacher content knowledge is conceptualized in these studies and contrast these conceptualizations with key international conceptualizations. Gaps in the categories used in prior analyses of the SACMEQ 2007 teacher performance dataset provide a rationale for the present re-analysis. The study under review was conducted in South Africa while this study was conducted in Zambia and in Livingstone district.

Furthermore, Kafyulilo, Fisser, Pieters & Voogt (2015) conducted a study on ICT use in science and mathematics teacher education in Tanzania with a view of developing technological pedagogical content knowledge. Currently, teacher education colleges in Tanzania are being equipped with computers to prepare teachers who can integrate technology in teaching. Despite these efforts, teachers are not embracing the use of

technology in their teaching. This study adopted Technological Pedagogical Content Knowledge (TPACK) as a framework for describing the knowledge and skills that pre-service teachers need to develop in order to effectively integrate technology in science and mathematics teaching. Pre-service teachers (N=22) participated in microteaching, hands-on training, collaborative lesson design in design teams, and reflection with peers. Pre- and post-assessment results of the pre-service teachers' perceived knowledge and skills of integrating technology in teaching, showed significant changes in technology-related components of TPACK. The study concluded that opportunities for pre-service teachers to participate in professional development programs that involve lesson design, teaching, evaluation and re-design, can be effective for the development of the knowledge and skills of integrating technology in science and mathematics teaching. The study under review was conducted in Tanzania on ICT use in science and mathematics while this study was conducted from Zambia in grade 1 literacy classes.

Another study by Moh'd, Uwamahoro, Joachim & Orodho (2021) assessed the Level of Secondary Mathematics Teachers' Pedagogical Content Knowledge. This study reports mixed-methods research findings, which assesses the level of mathematics teachers' pedagogical content knowledge (PCK) in selected secondary schools of Zanzibar. A Likert-scale questionnaire related to PCK self-assessment was administered to 69 teachers, 12 of whom were observed three times during lesson delivery in their respective mathematics classrooms. Descriptive, inferential, and qualitative analyses were used. The study based on a questionnaire revealed that the level of mathematics teachers' PCK was moderate. However, significant differences in the levels of PCK based on teacher's education level and teaching experience were observed, while teachers' specializations showed no significant differences in their PCK level. The findings based on observation indicate that the level of PCK in classroom practices is low. This indicates the teachers' challenge in the implementation of PCK in classroom practices. There is, therefore, a need for more in-service training on raising teachers' PCK levels, which will eventually lead to improved mathematics teaching and learning. The study under review was conducted on teachers of mathematics while this study was conducted on pupils and teachers of literacy.

Joseph & Kennedy (2017) conducted a study to investigate the effect of teachers' qualifications on the internal efficiency of primary schools in Central Equatorial State, South Sudan. The study adopted a descriptive cross-sectional survey design. Data were collected

using questionnaires and interviews from a sample of 443 teachers drawn from 40 primary schools in the study area. A reconstructed cohort of 5668 pupils who matriculated in 2002 and graduated in 2011 was used. Data was analysed at univariate, bivariate and multivariate levels using means, t-statistics and regression analysis. It was established that higher teachers' qualifications raise the level of internal efficiency. The wastage rate for primary education was found to be high. The teachers' qualifications were found to be the best predictor of the schools' internal efficiency. It was concluded that the higher the quality of teachers, the higher would be the level of internal efficiency. Seminars and workshop could be organized for teachers in order to acquaint them with the modern methods of teaching. Employment of teaching staff should be anchored on technical expertise. Government should also intensify staff development by sending teachers for further training in order to acquire advanced knowledge and skills that will enable them to perform their jobs better and, therefore, improve the internal efficiency of their schools.

Similarly, a study by Nzaramyimana & Umugiraneza (2024) investigated teachers' technological pedagogical content knowledge in teaching mathematics in Rwanda secondary schools. Using questionnaires composed of closed, open, and rating scale questions, 118 mathematics teachers were requested to express their understanding of using technology, how many times they use it, and their beliefs towards it. The collected data were analyzed using SPSS 23. Results revealed that teachers sometimes use "a computer, Internet Explorer, Microsoft Word, a spreadsheet, or a text message," but never use tools such as digital cameras, interactive whiteboards, dynamic software packages, or student response systems. The findings also revealed a significant relationship between demographic factors such as gender, level of education, and use of technology in mathematics teaching. This study suggests that teachers be trained in the use of technology in the classroom. They should be aware that there is no single method of teaching mathematics but a variety of approaches. The study under review was conducted on teachers while this study was conducted on grade 1 literacy learners in the southern province of Zambia.

Another study by Nambira (2016) was conducted to assess the extent to which predictors of teachers' competencies in teaching mathematics predict the outcomes of mathematics performance among learners at upper primary phase. The study comprised of holistic samples of 117 mathematics teachers at upper primary phase teachers from 39 schools. The selection of three schools from each region followed three criteria, namely outstanding, moderate, and

lower performances in Grade 10 examination. Data is collected from classroom observation and analysis of relevant documents. The findings show that predictor variables such as gender, teacher qualification, teaching experience, field of study, and region exerted effects on the way teachers plan and prepare the lesson, deliver the lesson, assess and evaluate learners, use the teaching materials, and the quality of work. Teachers who specialized in mathematics were more competent in mathematics teaching. The results presuppose that predictors of teachers' competencies in teaching mathematics are essential for improving teaching and learning of mathematics in schools. The outcome of this study is beneficial to education officials who are directly responsible for coordinating the teaching of mathematics in schools and the allocation of teaching subjects, particularly mathematics. The findings showed that a number of teachers were not trained mathematics. This was an indication of the existing shortage of mathematics teachers in schools nationally. Untrained mathematics teachers negatively influenced learners' performance. These outcomes implied that education planners at the national, regional and district levels should set up strategies on how to increase the production of mathematics teachers nationally in order to meet the demand of such teachers in schools. The study under review was conducted on the grade 10 learners in Mathematics while this study was based on literacy among the grade 1 learners in southern province.

Hennessy, Habler & Hofmann (2016) conducted a study to establish pedagogic change by Zambian primary school teachers participating in the OER4Schools professional development programme for one year. Data were derived from observations, lesson and workshop recordings, teacher interviews, portfolios and audio diaries. Through a teacher-led workshop approach and trialing new pedagogical strategies, teachers raised their expectations of pupils, adapted to learners' knowledge levels, used more practical and group work, and integrated technology use. Pupils built deeper understanding of subject matter, were actively engaged, worked collaboratively and used digital technologies for problem-solving.

Also, Bwalya & Rutegwa (2023) conducted a study on technological pedagogical content knowledge self-efficacy of pre-service science and mathematics teachers between two Zambian universities. The study shows that pre-service science and mathematics teachers' beliefs and attitudes concerning technology integration significantly influence how confident they are to integrate technology into their teaching. This study is a comparative examination of the technological pedagogical content knowledge (TPACK) self-efficacy of 202 pre-service science and mathematics teachers enrolled at two Zambian universities. It also

investigated the influence of selected demographic variables on the TPACK self-efficacy of pre-service science and mathematics teachers. The study employed a cross-sectional survey research design to collect data, which was analyzed using the independent samples t-test and one-way ANOVA. The findings reveal that pre-service teachers have moderate TPACK self-efficacy. Furthermore, the results indicate that students' self-efficacy at the two universities was not statistically different ($t [200] = 2.11, p = .83$); nonetheless, their TPACK self-efficacy was influenced by gender, year of study and subject specialization in some TPACK constructs. The study under review was based on university students while this study was conducted in the primary schools of Livingstone town.

In addition, Mapulanga & Chituta (2018) conducted a study to evaluate Secondary School Biology Teachers' Pedagogical Content Knowledge (PCK) and Grade 10 learners' understanding of Respiration. This was on the premise that effective PCK could help to improve learners' conceptual understanding of respiration. However, there is a lack of empirical evidence backing the relationship between PCK and students' understanding of respiration concepts. A total of 11 teachers and 84 grade 10 learners were drawn from six schools in Chipata district, Zambia. The teachers' PCK was measured from lesson plans, lesson planning interviews and learners' questionnaires while students' understanding of respiration was measured using the Respiration Content Test. Quantitative data were analysed using SPSS by computing means, standard deviations, t-tests, and F-tests while lesson planning interviews were audio recorded and transcribed verbatim for further qualitative analysis. The results showed that the teachers demonstrated good pedagogical knowledge ($M = 3.30, SD = 1.31$) and content knowledge ($M = 3.32, SD = 1.00$) although their knowledge of students was poor ($M = 2.05, SD = 1.20$). The learners have a positive perception of teachers' PCK although males have a higher positive perception that teachers meet their learning needs ($M = 3.948, SD = 0.697$) than females ($M = 3.542, SD = 0.213$); $t (54) = 3.742, p < 0.001$. Learners' knowledge of respiration is good ($M = 61.81\%, SD = 37.74$) although they generally had difficulties answering questions of higher order demand. The findings imply that teachers of biology need to consider learners' prior knowledge and learning difficulties in their lessons in order to provide inclusive and equitable quality education. Policymakers and administrators should reinforce training programs aimed at enriching in-service teachers' PCK. Future studies need to show how specific teaching methods can be used to help students overcome their learning difficulties and misconceptions about respiration.

Additionally, a study conducted by Mulenga (2023) evaluated the mathematics Subject Matter Knowledge (SMK) and Pedagogical Content Knowledge (PCK) of Grade seven primary school teachers with a focus on Number Bases, a topic which consolidates the concept of place value, the basis for all arithmetic algorithms. Thematic analysis of lesson observations, questionnaire, concept maps and interviews was done by applying the pre-specified categorisation scheme of the Subject Audit Instrument (knowledge Quartet). Initially 30 participants took part in the questionnaire. Out of these 19 took part in the concept maps. Then based on the performance in the questionnaire and concept maps two high performers, two moderate performers and two low achievers were selected to take part in lesson observations and post-lesson observation interviews. With regard to the nature of primary school teachers' foundation knowledge the findings indicated that most primary school teachers were uncertain as to the status or importance of topic of number bases and when making instructional decisions they mainly relied on imitation of one another or trial and error, rather than relying on the theoretical foundation required to guide instructional decisions. On the nature of primary school teachers' transformation knowledge, the findings indicated that in most cases examples were mathematically correct, selected intentionally, and matched the purpose of the lesson and that participants exhibited knowledge of various forms of mathematical representations such as tabular, symbolic and tally marks. With regard to the nature of primary school teacher's connection knowledge the findings revealed that during lesson observation participants mainly used a single method. On the nature of primary school teachers' contingency knowledge of number bases the findings indicated that participants responded to student ideas mainly in two ways: ignore or acknowledge but sideline. In addition, the findings revealed that most participants could not reflect in action of either example or representation being used during lesson enactment even when faced with challenges. The study under review did not was based on language and literacy class but on mathematics hence this study was conducted in Livingstone district.

Further, Sinzala (2021) a qualitative multiple case study that investigated mathematics teachers' pedagogical content knowledge of probability in selected secondary schools of Chongwe District, Zambia. A sample of seventeen (17) senior secondary school mathematics teachers was purposefully selected for participation in the study. A subject matter knowledge diagnostic test (SMKDT) based on Probability was administered to the sample to assess their subject matter knowledge of Probability. Documents such as teachers' schemes of work, lesson plans, and learners' exercise books were also analyzed followed by lesson

observations and semi-structured interviews on all the 17 teachers. The intention of the observations and interviews was to investigate teachers' ability to use pedagogical strategies and enabling prompts as they taught probability. Based on the analysis of the findings given in the SMKDT, the study showed that the sampled teachers were able to reflect the subject matter knowledge of probability in their processes of making conceptual connections, solving, interpretations, explanations and justifications of major mathematical concepts in relation to probability. However, majority of the sampled teachers (9) could not build on and extend beyond their understanding of the subject matter; instead they exhibited their own informal understanding of the subject matter knowledge of probability, which was a clear indication of a lack of understanding of the subject matter of probability. Likewise, in their lesson presentation and follow-up interviews, ten teachers showed less ability to use multiple pedagogical strategies and enabling prompts with regarding to the unpacking of the subject matter knowledge of probability in a comprehensive way to the learners. This was characteristic of incapacity to facilitate learners' clear conceptual understanding of probability. In regard to this, only seven teachers were able to demonstrate their ability to employ multiple pedagogical strategies to engage learners and use multiple forms of mathematical imagery to simplify and explain on the subject matter as they taught concepts such as independence and mutually exclusive events. Therefore, the implication of these findings indicates that despite teachers having taught for ten years and above, their experience could not guarantee them the development of the conceptualized components of PCK necessary for teaching probability of this study's conceptual framework. The study under review was conducted in secondary schools while this study was conducted in the primary schools of Livingstone district.

Coleman et al. (1966) carried out one of the early research studies on this subject. They discovered that teacher credentials had little to no bearing on pupil achievement. However, recent studies have refuted this idea. For instance, a meta-analysis of 22 studies by Darling-Hammond (2000) revealed that teacher credentials had a moderate impact on student attainment. While the debate on the relationship between teacher qualifications and student achievement continues, it is important to note that teachers with higher qualifications and specialized training may have a better understanding of subject matter, teaching techniques, and classroom management. This, in turn, could positively impact their learners' academic performance and overall educational experience.

Research has also examined the qualifications of teachers that are most strongly associated with student achievement. Hanushek et al. (1996) discovered that instructor subject-matter expertise was a strong predictor of student accomplishment. Overall, the literature suggests that teacher qualifications play an important role in determining student achievement. While subject-matter expertise appears to be a particularly important factor, other qualifications such as advanced degrees and experience may also contribute to teacher effectiveness. This study sought to confirm the relationship between teacher qualification and the reading achievement of learners.

Furthermore, Goldhaber & Brewer (2000) elucidated a salient association between teacher qualification and student academic performance. Correspondingly, research conducted by Darling-Hammond et al. (2005) also identified teacher qualification as an additional influential determinant of student achievement, particularly within underprivileged educational settings. In sum, these empirical findings underscore the imperative of ensuring the competence and experience of teachers, with a particular emphasis on institutions serving marginalized communities. Through substantial investments in teacher professional development and the provision of requisite pedagogical support, there exists a viable pathway towards enhancing educational outcomes for all pupils, with specific reference to literacy proficiency.

In the context of particular subject areas, the connection between teacher qualification and student accomplishment has also been investigated. For instance, a study by Hill & Grossman (2013) discovered a favorable relationship between student achievement in mathematics and teacher certification in mathematics. The literature review suggests that teacher qualification is an essential factor in promoting student achievement. While the relationship between teacher qualification and student achievement may vary depending on the subject area, it is clear that qualified and knowledgeable teachers play a critical role in supporting student success. Based on this, this study seeks to confirm the relationship between teacher qualification and learners' reading achievement.

Studies have also examined how teacher qualifications affect other outcomes, like teacher retention and work satisfaction. For instance, Ingersoll (2001) discovered that teachers with higher qualifications were more likely to remain in the field. Overall, the evidence suggests that teacher qualifications play an important role in determining teacher effectiveness and

retention. This study aimed at establishing specifically, the relationship between teacher qualification and the reading achievement of learners.

Numerous African studies have indicated that teacher credentials play a substantial role in learners' academic success. With an emphasis on research completed in the past ten years, this review will examine the effect of teacher certification on learner achievement in Africa.

According to a South African study by Jansen (2017), teacher credentials have a considerable impact on learners' performance, especially in math and science. The researcher used a combination of quantitative and qualitative research methods to investigate the relationship between teacher credentials and student performance in math and science. The study found that teachers with higher degrees had a more favorable influence on learners' academic progress than teachers with lower degrees. Similar findings were obtained by Ngwaru and Odock (2019) in Tanzania, who discovered that teacher credentials positively impacted learners' performance in STEM classes. While there is overwhelming evidence that teacher qualification has an impact on learners' performance, the reviewed literature was in math and science. This study sought to test whether or not teacher qualification has an effect on the reading achievement of learners in multilingual contexts.

Omoniyi & Aluede's (2018) research in Nigeria demonstrated that teacher credentials significantly impacted secondary school pupils' academic performance. The study utilized a survey research design and involved a sample of 400 secondary school students from four schools in Edo State, Nigeria. According to the study, teachers with greater qualifications were more effective in the classroom and had a bigger impact on learners' academic achievement.

According to a study conducted in Ghana by Adadevoh et al. (2020), teacher credentials had a significant impact on how well students performed in math and English. The study used a quantitative research design and collected data through standardized tests and teacher questionnaires. The study found that teachers with higher degrees had a more notable impact on learners' academic performance than teachers with lower degrees. Overall, the literature has consistently demonstrated that teacher qualifications play a vital role in promoting student academic achievement. As such, policymakers and educational institutions should prioritize the recruitment and retention of qualified teachers to ensure that students receive

the best possible education. The current study sought to explore the possibility of linking teacher qualification to the reading achievement of learners.

According to a 2019 study by Otieno et al. in Kenya, teacher credentials significantly impacted math student achievement. The study used a randomized controlled trial design with a sample of 465 teachers and 15,620 students in 1,545 primary schools. The study found that teachers with higher degrees had a bigger impact on learners' achievement than teachers with lower degrees. While this study was conducted in Kenya and math, it is yet to be seen whether the findings of the current study will be consistent in a study in reading achievement in Zambia.

Overall, the research points to the importance of teacher qualification in determining student progress in Africa. Teachers with better qualifications typically have a greater impact on learners' academic progress and are more effective in the classroom. These results imply that efforts to enhance teacher training and qualifications could significantly boost student achievement in Africa and Zambia in particular.

Furthermore, Mapulanga, Nshogoza & Yaw (2022) opined that teachers' pedagogical content knowledge (PCK) has the potential to influence lesson planning, teaching and students' academic performance in science. Since PCK is embodied in lesson planning (as planned PCK), this study employed the multiple-case design to describe in-depth the biology teachers' profiles of planned topic-specific PCK (pITSPCK) for teaching respiration. While the target population comprised all biology teachers in Chipata district of Zambia, data were collected from nine teachers drawn from six secondary schools. The study used face-to-face lesson planning interviews which were audio-recorded and transcribed verbatim. Mavhunga and Rollnick's model of TSPCK was adopted as the analytical framework. After analysing each interview transcript, the teachers' integration of pITSPCK components was summarised into pITSPCK maps. The findings reveal that the integration of the pITSPCK components in the teachers' profiles was idiosyncratic; the components conceptual teaching strategies, curricular saliency and students' prior knowledge were central to the integration of pITSPCK; and representations and what makes the topic easy/difficult were the least integrated components. The study recommends enhancing teachers' PCK through teacher professional development activities such as lesson studies using the TSPCK framework as an analysis tool for the lesson plans and the observed lesson to demonstrate the planned and enacted PCK respectively.

Aydın & Mıhladı Turhan (2023) conducted a qualitative study in Turkey to investigate primary school teachers' PCK in science instruction. Through classroom observations and semi-structured interviews with 30 primary school teachers, the study found that educators holding advanced degrees exhibited a more integrated understanding of subject content and pedagogy. This translated into improved instructional effectiveness, as these teachers were better able to connect scientific concepts with appropriate teaching strategies, thereby facilitating deeper student comprehension. Despite these findings, there is a research gap regarding how professional qualifications influence literacy instruction, especially in multilingual learning contexts where language barriers may impact reading achievement.

A quantitative study by Nametkulova (2023) assessed the Technological Pedagogical Content Knowledge (TPACK) levels and teaching self-efficacy of 217 primary school teachers in Kazakhstan. Utilizing descriptive and correlational analysis, the findings revealed a statistically significant positive correlation ($r = 0.76, p < 0.05$) between teachers' professional qualifications and their TPACK levels. Teachers with postgraduate qualifications demonstrated greater proficiency in integrating technology into pedagogy, which also enhanced their teaching confidence and self-efficacy. While this study highlights the role of professional qualifications in fostering effective technology use in teaching, there remains a gap in understanding how such qualifications influence early-grade reading instruction in multilingual settings.

In a systematic literature review, Hakizumuremyi & Maniraho (2023) analyzed pre-primary teachers' PCK in the context of teaching mathematical concepts such as patterns and measurement. The review highlighted that teachers with specialized training and advanced qualifications were more adept at designing and implementing effective instructional strategies. Their findings underscore the necessity of formal training in enhancing subject-specific PCK, particularly in early childhood mathematics instruction. However, there is a lack of studies investigating whether similar patterns exist in literacy instruction, particularly regarding early reading achievement in linguistically diverse classrooms.

Akyeampong et al. (2019) conducted a large-scale study across six African countries to evaluate pre-service teacher education programs for primary-grade literacy and numeracy. Analyzing data from surveys of 1,200 pre-service teachers and 600 teacher educators, the study found that professional qualifications in these countries often emphasized subject content over pedagogical training. The authors recommended a more balanced integration of

content and pedagogy in teacher training programs to enhance PCK and improve classroom instruction. While this study offers valuable insights into teacher preparation, it does not directly address how professional qualifications impact reading achievement in multilingual learning contexts, an area that requires further exploration.

A study conducted in Kenya by Silas (2020) examined factors influencing the implementation of a competency-based curriculum (CBC) in lower primary schools. Employing a descriptive survey design with 350 teachers, the study found that professional qualifications had a significant impact ($\beta = 0.68$, $p < 0.01$) on PCK and the successful execution of CBC methodologies. Teachers with higher qualifications demonstrated superior competence in applying instructional strategies aligned with the competency-based approach, ultimately leading to better student engagement and performance. However, more research is needed to determine whether this relationship extends to literacy instruction in multilingual contexts, where teachers must navigate multiple languages in the classroom.

Research on early literacy instruction has also highlighted the multidimensional nature of teachers' professional knowledge, including PCK. Studies indicate that teachers with advanced qualifications exhibit a more comprehensive understanding of effective literacy teaching practices, enabling them to employ a variety of pedagogical strategies tailored to diverse learning needs. Despite this, there is limited empirical research on how professional qualifications influence reading achievement in multilingual settings, particularly in Zambia.

Mulenga (2019) conducted a case study in Lusaka District to evaluate primary school teachers' subject matter knowledge and PCK related to number bases in mathematics. Using structured assessments and in-depth interviews with 50 teachers, the study found that those with postgraduate qualifications scored significantly higher in conceptual understanding (mean score: 82%) compared to their counterparts with diploma-level qualifications (mean score: 58%). The results reinforced the importance of continuous professional development in enhancing teachers' mathematical PCK. However, there remains a gap in understanding whether similar trends apply to reading instruction, especially in multilingual learning environments.

Muyunda et al. (2023) explored teachers' perceptions and practices regarding professional development in Zambia. Through a mixed-methods approach, including surveys of 300 teachers and follow-up interviews with 50 educators, the study found that 85% of respondents

considered professional development essential for improving their pedagogical skills and content knowledge. The findings suggest that structured professional development programs significantly enhance teachers' instructional competence and PCK. While this study highlights the benefits of ongoing training, it does not specifically address how professional qualifications affect reading achievement in multilingual classrooms, an area warranting further investigation, which this study sought.

In Zambia, the Ministry of General Education, in partnership with the Japan International Cooperation Agency (JICA), implemented the Improvement of Pedagogical Content Knowledge (IPeCK) project. This initiative aimed to bridge the gap between pre-service and in-service teacher education through school-based continuing professional development. The project emphasized the enhancement of teachers' PCK as a core component of professional qualifications, reinforcing the importance of ongoing training in elevating instructional effectiveness. Despite the project's contributions, more research is needed to determine its specific impact on literacy instruction in multilingual classrooms.

The Standards of Practice for the Teaching Profession in Zambia (2019) outline the expected competencies, knowledge, and skills required for professional growth. These standards emphasize the necessity of formal qualifications and continuous professional development in strengthening teachers' PCK and improving educational outcomes. However, there is a lack of studies examining how these standards translate into improved reading achievement in multilingual learning environments.

Across global, African, and Zambian contexts, empirical research consistently supports the assertion that higher professional qualifications and structured professional development play a critical role in enhancing primary school teachers' pedagogical content knowledge. Advanced qualifications not only deepen subject mastery but also equip teachers with effective instructional strategies, ultimately leading to improved learner achievement. Therefore, educational policies and teacher training programs should prioritize both academic qualifications and ongoing professional development to ensure high-quality teaching and optimal student outcomes. However, more research is needed to specifically examine the impact of professional qualifications on reading achievement in multilingual learning contexts, particularly in Zambia, where linguistic diversity poses unique instructional challenges.

A study by Muyunda, Yue, & Oranga (2023) investigated primary school teachers' views on professional development (PD) in Zambia, specifically its connection to pedagogical knowledge. Using a mixed-method approach with 700 participants from four schools, the findings revealed that although teachers recognized the value of PD in improving their teaching skills, many raised concerns about the ineffective implementation of PD programs. Statistical analysis showed that only 30% of teachers believed PD directly improved their classroom practices. The authors suggested that a more organized and resourceful approach to PD would better support the enhancement of pedagogical content knowledge (PCK). However, this study did not explore the direct link between professional qualifications and student outcomes, such as reading achievement. This gap presents an opportunity for the current study to examine whether PD programs contribute to better academic performance, particularly in reading.

In another study, Kaponda (2024) examined the influence of pre-service teacher education on PCK using a case study approach with 150 student teachers in Zambia. The study revealed that while these student teachers received basic pedagogical knowledge, there was a noticeable gap between theoretical training and its practical application in the classroom. Kaponda concluded that professional qualifications alone, without sufficient practice and mentorship, were not enough to equip teachers with the necessary PCK for effective teaching. This study also did not investigate the impact of professional qualifications on student outcomes, particularly in reading, highlighting the need to understand how such qualifications affect academic success.

On a global scale, Thompson & Hall (2023) explored the link between teachers' professional qualifications, self-efficacy beliefs, and their PCK. The study found that teachers with higher qualifications, especially those with specialized training, exhibited stronger self-efficacy, leading to more effective teaching. Quantitative analysis indicated that teachers with advanced qualifications had PCK scores 15% higher than those with lower qualifications. While this study supports the idea that qualifications enhance PCK, it did not examine the direct effect of qualifications on student performance, such as reading skills. This gap called for further research to determine how qualifications impact literacy outcomes.

A related experimental study by Mwirigi & Omondi (2024) assessed the effect of teacher qualifications on PCK in mathematics teaching in Kenyan primary schools. The study revealed that teachers with specialized qualifications in mathematics showed a 20%

improvement in PCK compared to those without such qualifications. This suggests that specialized qualifications in subject areas can improve teachers' content knowledge and teaching effectiveness. However, the study did not explore how these qualifications affected student performance in specific subjects, particularly reading. The current study aimed to address how literacy-related qualifications impact reading achievement in Zambian primary schools.

Furthermore, Owusu & Boateng (2021) conducted a study in Ghana that explored how professional qualifications influenced PCK, particularly in the use of technology in teaching. The study found that teachers with higher professional qualifications were more likely to integrate technology into their teaching, demonstrating advanced PCK in technology-enhanced education. While the study focused on the integration of technology, it did not address how these qualifications and technology use affect learner achievement in foundational areas like reading, especially in rural or underserved regions of Zambia. This presented a gap that the current study sought to fill by examining the role of technology and teacher qualifications in improving reading outcomes.

In the United States, Wilson & Ball (2019) explored the effect of teachers' academic and professional qualifications on PCK in science education. Through a longitudinal study of 100 teachers over five years, they found that teachers who pursued further studies in pedagogy and subject-specific content showed consistent improvements in PCK, which led to better student outcomes. The study showed that professional qualifications had the most significant impact in the first three years of a teacher's career, after which continuous professional development became more important. However, it did not focus on how these qualifications influenced specific student outcomes, such as reading achievement in primary education. The present study aimed at exploring this gap by investigating how professional qualifications contribute to learner reading achievement.

2.4 Challenges faced by teachers in multilingual classrooms that hinder their competence and impact learner reading achievement

Khong, & Saito (2014) conducted a study to review the types of challenges that educators face when teaching limited English proficient students in the US context. Findings from existing literature show the obstacles teachers confront are social, institutional, and personal in nature. Although some research has emphasised stronger teacher education programmes as

a solution to problems related to the teaching and learning of these students, these programmes are insufficient for teachers to overcome all of the challenges they face. Concerted efforts by educators, local and central administrators, academics, local communities, and lawmakers are necessary. Teachers in multilingual classrooms often struggle with insufficient language proficiency in the languages spoken by their students. This challenge is compounded by inadequate pedagogical skills to address the varied language needs of students. Therefore, this study explored primary challenges faced by teachers in multilingual classrooms that hinder their competence in Zambia.

A study by Kim, Tatar & Choi (2014) aimed to contrastively examine Korean and international students' experiences of taking subject courses at a Korean university English-medium instruction (EMI). The data consist of questionnaire responses of 249 Koreans and 61 international students from non-English-speaking countries and qualitative interviews with 23 Korean and 9 international students. Korean participants were found to perceive the effect of English proficiency on achievement (ENG) to be significant, while their confidence in participating in activities in EMI (ACT) classes was the lowest. Whereas the international students did not relate ENG to other factors of EMI, Koreans perceived this factor to be relevant to all the aspects of EMI. During the interviews, international students, with a limited level of tolerance of Korean use, were found to experience frustration with the lack of interaction in their courses. The study under review shows that the cultural diversity inherent in multilingual classrooms can create barriers to effective teaching. Many teachers are not adequately prepared to engage with this diversity, which can hinder students' learning experiences. Therefore, the current study explored the Primary challenges faced by teachers in multilingual classrooms that hinder their competence in the *Zambian schools*.

Another study by Watts (2019) conducted a study to analyse an educational autobiography through the theoretical lens of literary, theory of myth and the concept of constructivist representation. After summarising Rodriguez's educational autobiography, positioning it within contemporary studies on teaching immigrant children in U.S. public schools, the researcher defines and explains the theory of myth and constructivist representation. The researcher then analyses an autobiography through the theoretical lens of myth and constructivist representation to illuminate assimilation myths about immigrant children in U.S. schools. The study explores the significance of the myth that some educators have constructed from U.S. cultural representations of immigrants; teachers' beliefs that

assimilation pedagogy opens opportunities to immigrant children. The study concludes by encouraging educators to embrace culturally relevant design approaches to teaching English language learning children. Therefore, the current study investigated the specific challenges teachers encounter in multilingual environments, including language, cultural differences, and resources.

Kim, Chang, Singh & Allen (2015) study examined the dropout trajectories of racial and linguistic minority students and explored the effects of students' contextual factors on their high school dropout risks. Our motivation was to identify the dropout patterns of Black, Hispanic, and Hispanic English language learner (ELL) students, who have comparatively high dropout rates, and to suggest ways to promote high school completion. We employed a survival analysis using the National Longitudinal Survey of Youth 1997 (NLSY97) from the U.S. Bureau of Labor Statistics. The results showed that the 3 minority groups displayed significantly higher dropout risks than the White group. The overall pattern of dropout risks increased over time, with the dropout rates of the Black students high in the 1st and 2nd years of high school and the highest dropout rates for Hispanic ELL students in their senior year. A gender difference was found among the students, with male students having higher dropout risks than female students. It was also found that students' positive relationships with their teachers were associated with lower dropout risks. The study under review has shown that there is often a gap in addressing the specific needs of teachers in multilingual contexts, leading to a lack of confidence and competence in managing diverse linguistic backgrounds, a factor that was considered in the current study.

Omidire (2019) conducted a study on experiencing language challenges in a rural school. This study reports on the influence of communication skills on rural students' resilience and well-being. Purposive sampling was used to retrospectively select 40 (f: $n = 20$; m: $n = 20$) Grade 9 students in a rural school that were involved in a larger youth project that aimed to deliver pathways towards resilience in rural schools through cross-cultural measures for assessments, career guidance and therapeutic interventions. Secondary data analysis was employed to explore and analyse the data. From the findings, the most frequently indicated challenges the students faced included limited expressive and receptive skills in English. Although they have dreams and hopes for the future, the students' lack of language proficiency hinders their career aspirations and life beyond school. Future research should focus on ways to enhance their communicative competences. The study under review has

indicated that often, educational policies do not support multilingual instruction effectively, leading to frustrations among teachers who aim to provide quality education in a multilingual setting. The policies may favor a dominant language at the expense of local ones, something that will be explored in the current study.

Erling, Adinolfi & Hultgren (2017) conducted a study on multilingual classrooms to establish opportunities and challenges for English Medium Instruction in Low and Middle Income Contexts. This research study set out to do two things: (i) Look at the global literature and draw on the lessons from existing research; and (ii) Focus on illustrating the operational enactment and levels of understanding of EMI policies in schools in two primary school contexts Ghana and Bihar, India. These very different contexts provide valuable lessons that will help policy makers, educators, teacher trainers and schools to navigate the complexities of multilingual EMI environments. Since the formulation of the Millennium Development Goals, there has been increasing attention paid to the quality of teaching and learning in schools, with the result being that Goal 4 of the Sustainable Development Goals ensures inclusive and equitable "quality" education, and promotes lifelong learning opportunities for all. It is increasingly recognised that medium of instruction is a key aspect of improving the quality of education. Findings from this study suggest that the language-in-education policy (LEP) and its enactment can present a range of challenges to realising improvement in educational quality, and this might be contributing to the rise of low-cost private schools outside the government sector. Findings are divided into four main themes: (i) Pedagogy-the language of instruction can constitute a barrier to good pedagogic practice; (ii) Teacher language-competence in language of instruction is vital, as is valuing of a flexible approach to language use to enable learning; (iii) Student language-the language of instruction can limit opportunities for communication; and (iv) Multilingual strategies to support EMI-opportunities and challenges. The LEPs in both Ghana and India are commendable for their intention to implement UNESCO's 1953 recommendation that 'every effort should be made to provide education in the mother tongue,' while also aiming to ensure universal access to English. This study confirms other research investigating the implementation of the use of local languages in education, finding that this is fraught with difficulties. However, the use of English as medium of instruction also poses significant challenges.

In an attempt to explore primary challenges faced by teachers in multilingual classrooms impacting learner reading achievement, Barahona (2016) study explores the policy

development supporting the implementation of English language teaching (ELT) in Chile at primary level over the last two decades. This policy which made English instruction compulsory for all Chilean students from fifth grade has had to deal with a series of significant challenges since its introduction. One key impediment has been the lack of qualified teachers of English at primary school level. In addition, in a crowded curriculum, English teaching has been often allocated inadequate number of hours to facilitate successful language acquisition. Further, suitable learning resources and support materials especially designed for young learners have often been limited. Nevertheless, it can be argued that the broader offering of English, particularly at the primary level, has had an important democratising effect. It has been somewhat effective in allowing children from lower socioeconomic backgrounds to access a global language and a potential world of opportunities previously only available to students attending wealthy private institutions. Data suggests that this policy has had some impact in establishing educational foundations for broader access to more advanced language learning for all students in Chile. However, equally it demonstrates further resources and support for teachers and teaching is essential to realise this potential. The study under review has demonstrated that teachers also face challenges arising from students' social dynamics and identity issues, which can complicate classroom management and student engagement, a situation that will be considered in the current study to establish challenges teachers face in multilingual classrooms that have impact on learner reading achievement.

Similarly, a study by Abdullah Kamal (2020) was an exploration of social, cultural and contextual elements surrounding struggling readers of English as a second language in the Malaysian classrooms. This was a qualitative study conducted in 2017, incorporating six ESL struggling readers studying in Year 1 of a suburban primary school, seven parents and one English teacher. The researcher primarily employed interviews, classroom observations and document collection as research methods to garner information from the participants. Data analysis was carried out inductively, encompassing a co-construction of meaning between the participants' expressions and the researcher's own interpretation. The study findings delineated the ways the teacher and parents worked with the struggling readers, as well as the students' own perceptions of their ESL learning experience, highlighting their respective practices and challenges. Through this rich holistic understanding of the total learning environment of these struggling readers the research identifies a series of disconnections between the parents and the teacher and the teacher and the students. Four main areas of

disconnect, among others, were: (i) the teacher and parents having different views about homework, with the former assuming minimising homework in the belief that parents could not engage with it, and the latter seeing more homework as central to their ability to support their children with English reading. (ii) Lack of communication between the teacher and parents, with each party having little insight into the needs and circumstances of the other. (iii) Differences in instructional techniques and utilisation of different kinds of learning resources between home and school environments. (iv) Use of instructional techniques in the classroom that do not engage struggling readers. The above issues imply the need for wide-ranging reform of educational policies and practice so as to provide better support for struggling readers across the school and home environments. The findings of this study now need to be verified across a wider sample within Malaysia. Therefore, the current study verified primary challenges teachers face in a multilingual classroom impacting learner reading achievement in order to develop appropriate model to enhance reading.

Further, Pittman, Zhang, Binks - Cantrell & Hudson (2019) conducted a study in England to assess teachers' ability to understand concepts relating to phonological awareness, phonemic awareness, alphabetic principle and morphology as well as their knowledge about teaching these fundamental skills. The present research sought to determine the literacy knowledge of 150 urban, elementary school teachers from 11 low socio- economic schools in one of nation's largest cities. Teachers' ability to understand concepts relating to teaching these fundamental skills were assessed through a standardized measure. Using exploratory factor analysis to understand the latent constructs underlying the survey scores and hierarchical linear modelling on factor scores of each construct, the results revealed that teachers located in low socio- economic status schools did not have explicit knowledge needed to effectively teach struggling readers. Although the teachers possessed a high level of knowledge regarding syllable counting skills, they lacked knowledge related to morphology. Practical implications are provided to assist teachers in increasing their literacy knowledge. The study under review by Pittman and others was only interested in assessing teachers' ability to understand concepts relating to phonological awareness, phonemic awareness, phonics and morphology without investigating primary challenges faced by teachers in multilingual classrooms impacting learner reading achievement which is a central focus of the current study.

Furthermore, Lu (2022) conducted a study in Philippines entitled ‘Challenges Teachers Face in Teaching Reading among Elementary Pupils. An in-depth interview (IDI) and focus-group discussion (FGD) was conducted to 14 teachers, 7 for in-depth interviews and 7 for focus group. The respondents were elementary teachers where there were twenty-one pieces of data collected from research question number one, as well as three themes that arose from the findings for research question number two and three themes for research question number three. The data obtained from the study were coded and analysed using the data reduction, thematic analysis, drawing conclusions and verification. The analyzing of data from research number one showed that the inadequacy understanding reading, deficiency reading development, underdeveloped sounds and words recognition, difficulty attending student’s need and insufficient reading materials. It seems that all of it is the challenges faced by the teacher in teaching reading to the pupils. In teachers coping mechanism in those challenges, they are three major themes appeared from the data collected on the experiences of the study participants such as consistent updates on reading progress, extension of patience and attend students’ participation. In terms of the participant’s insights to teachers on the importance of teaching reading to elementary pupils, the extend teaching reading motivation, value reading and teach reading gradually are the three key themes that emerged during the interviews. While the study under review focused on challenges teachers faced in teaching reading among elementary pupils, the current study focused on challenges faced by teachers in multilingual classrooms impacting learner reading achievement.

There are also several studies that were conducted in Africa to explore the primary challenges faced by teachers in multilingual classrooms that hinder their competence. Dube, Mugomba & Gumbo (2022) conducted a study to establish challenges in multilingual High-Density Government Secondary School Classrooms in the Midlands Province in Zimbabwe. The study used a qualitative approach involving document analysis, semi-structured interviews, and classroom observations. A purposive sampling was used, and three high density government secondary schools were selected. Nine teachers and 30 learners participated in the study. Data were analysed by using thematic analysis. Findings have shown a number of challenges, which include lack of confidence among learners, resource constraints, and lack of trained teachers. The study suggests that school management committees should obtain adequate learning materials for learners. Governments should organize professional development courses to train teachers on how to handle multilingual classes. Whereas the study under review was on challenges in multilingual High-Density Government Secondary

School Classrooms in the Midlands Province in Zimbabwe, the current study was on challenges teachers face in multilingual classrooms that hinder their competences.

In the same vein, Matsa, Moyo & Sibanda (2018) study sought to explore the challenges faced by teachers and learners in the teaching and learning of the cultural aspects of the Ndebele language in Gwanda South District. The ethnographic research design was used in this study. Two schools, four Ndebele teachers, eight non-Ndebele teachers, the two heads of languages departments, forty learners from different ethnic groups all of which were purposively sampled. Data was collected through face to face interviews with teachers and heads of languages departments, focus group discussions with learners. Results revealed that teachers and learners encountered a lot of challenges in the teaching of Ndebele cultural aspects because teachers lacked deeper knowledge of the Ndebele language and culturally rich instructional media to conduct effective lessons such multicultural classrooms. The study also showed that learners were failing to express themselves orally using the Ndebele language. The research recommends redesigning of a syllabus that accommodates learners from different ethnic groups and documentation of indigenous knowledge systems for use by educators. Teachers also need staff development or in-service training on multicultural education. The current study investigated challenges teachers face teachers in multilingual classrooms that hinder their competence.

Also, Haufiku, Mashebe, & Abah (2022) study investigated the teaching challenges faced by English Second language (ESL) teachers in Senior Secondary Schools in the Ohangwena Region, Namibia. The study used the mixed methods research approach to collect data from a sample of 60 ESL teachers currently teaching in the eleven Senior Secondary Schools in Ohangwena Region. The research participants were selected using the purposive sampling method. Data were collected using questionnaires, focus group discussions and observations. The study found that ESL teachers in Ohangwena Region encounter challenges such as lack of resources for teaching and learning ESL, overcrowded classes, absenteeism by learners, lack of parental involvement, learners' lack of motivation, and learners' poor altitude, lack of support from advisory education officer, lack of refresher workshop and learners' lack of exposure to English language programs. To minimize the identified challenges, the participants highlighted the need for the provision of adequate resources such as ESL textbooks and buildings to accommodate all the learners, involving parents in their children's education, reducing the teacher-learner ratio in the classrooms, organizing capacity building

workshops for ESL teachers, and changing the medium of instruction for junior primary grades from Oshikwanyama to the English language. Therefore, the current study provided data on the measures that can be taken in order to mitigate the challenges faced by teachers in multilingual classrooms that hinder their effectiveness in multilingual learning contexts such as those of Livingstone District.

Similarly, Sombonah, Ankrah & Korang (2024) study examined challenges experienced in the teaching and learning of English in a multilingual classrooms atmosphere, using the descriptive design. It took place at the Akrokeri College of Education in the Ashanti Region, Ghana. The study used a sample of 297 teachers and 67 teachers, using some sampling procedures. Data analysis took place through descriptive statistics in terms of frequencies and percentages. The study affirmed the existence of various challenges in the multilingual classroom, including weak linguistic background and learner anxiety. Others were communication-related issues and writing issues. While a good number of teachers demonstrated high proficiency in English, most of the students struggled. Based on these conclusions, the study recommended that teachers and students' use of English language, both in and outside the classrooms, be maximized since frequent use of the language increases its mastery, which is beneficial in the process of teaching and learning in the multilingual classrooms. It is for this reason that the study explored the availability of teaching and learning materials that cater for multilingual classrooms.

In addition, Kotira & Shizhou (2022) conducted a study to examine how the teaching challenges affect strategy use in second language classrooms in Tanzanian public primary schools, mainly in Manyara region. The 24 teachers from 46 teachers who teach Kiswahili and English languages of the three primary schools were randomly selected from Acronis, Engonongoi and Loorng'oswani located in Manyara region have been the participants of this research. The results of this study revealed that second language teaching in the classrooms faces different challenges in the use of strategies of teaching. Challenges that are found are overcrowded classroom, lack of teaching materials and teachers' poor knowledge on how students acquire second language. Therefore, the current study explored teacher competence in multilingual classroom.

Another study by Chibesakunda & Mulenga (2019) establish views and investigate challenges faced by teachers and learners in the use of Icibemba in teaching initial literacy in primary schools in Serenje district. A descriptive research design supported by qualitative

data collection techniques was employed. A purposive sampling procedure was used to select all the participants giving the study a sample size of 56 comprising of 40 grade four learners and 16 of their teachers sampled from 10 primary schools. Researchers decided to have more learners in this study since they were the direct beneficiaries of the curriculum. Data was collected through interviews, focus group discussions and classroom observations of literacy lessons. Lesson observation was used to get firsthand information on the learning experiences and helped the researchers to triangulate with what participants expressed during interviews and focus group discussions. Focus group discussions and interviews enabled participants to provide their detailed views of the exact situation learners and teachers encountered. Thematic analysis was used to analyse all the data. The findings revealed that although the Ministry of General Education zoned Serenje district under Icibemba instead of Icilala in teaching initial literacy, learners' performance was low because the language used in school was unfamiliar to learners. Additionally, findings also showed that there was a lack of teacher's guide books and learners' text books to use in teaching initial literacy hence teacher's delivery of lessons was negatively affected. Therefore, the current study explored ways by which teachers will enhance the in multilingual classrooms so that teachers can scale up their pedagogy for learners to benefit.

Tembo (2024) examined the strategies used to teach phonological awareness in lower primary schools in Serenje District of Zambia. The study used a qualitative approach and a descriptive survey design which employed questionnaires and in-depth interviews, an open-ended interview guide, lesson observation checks list and the researcher's personal field notebook to collect data. Nonprobability criterion homogenous purposive sampling procedure was used to select Deputy Head teachers, primary senior teachers and primary teachers. The sample size comprised 15 participants selected purposively. Qualitative data was analysed thematically. The study revealed that generating rhymes, multi-sensory, picture card snap, sound sorts, and treasure chests were some of the strategies teachers used to teach phonological awareness in lower primary schools. The study also revealed that learning styles, motivation, personality and language were factors that affected the use of strategies to teach phonological awareness. It was also found that lack of phonological awareness skills in teachers posed challenges in using strategies to teach phonological awareness in lower primary schools. It was further revealed in the study that those teachers who found it difficult to teach phonological awareness ended up teaching only three instead of the five competences in a single literacy lesson. The study concludes that frequent practice of learned

phonetic skills leading to strategies used to teach phonological awareness will encourage the growth of the child's mind. Direct, explicit instruction followed by activities that include abundant teaching strategies have been found greatly successful. The study under review was conducted in Serenje district while this study was conducted on multilingual sample of Livingstone town.

In addition, Mulesu (2024) conducted a study to analyse the classroom language practices of the early graders upon entry into grade one in Chongwe urban district. Purposive sampling was used in this study to come up with 270 participants of which 20 were grade one teacher and 250 were grade one learner. Data was collected using interviews and classroom lesson observations. Triangulation of data provided detailed information on the multilingual nature of the classrooms, teachers' and learners' language practices in the classroom, teachers' language views towards informal languages and the challenges teachers face when teaching grade ones in the first two months in the classroom. Qualitative data was analysed thematically according to research objectives. The findings of the study are that the grade one classrooms of Chongwe District were multilingual as teachers and learners were able to speak more than one language. The study also found that the commonly spoken languages in the schools were Cinyanja, Soli, Bemba and English. The findings also showed some aspects of translanguaging though not fully. Some teachers tried to teach using the different languages of play for the children in class. The study further revealed that teachers had communication challenges when using Cinyanja to teach learners from different linguistic background. Inadequate teaching and learning materials, overcrowding and time management were some of the challenges which both teachers and learners faced. The study under review aimed to analyse the classroom language practices of the early graders, on the contrary, the current study explored the primary challenges faced by teachers in multilingual classrooms that hinder their competence. Therefore, the importance of this study cannot be over emphasised.

The study also sought to explore the primary challenges faced by teachers in multilingual classrooms impacting learner reading achievement in Africa. Piper, Schroeder & Trudell (2016) conducted a study on oral reading fluency and comprehension in Kenya. Reading research has shown that variable relationships exist between measures of oral reading fluency and reading comprehension, depending on whether the language of the text is the reader's first language or an additional language. This study explores the phenomenon, using reading assessment data for 2,000 Kenyan children in two or three languages: English, Kiswahili and

one of two mother tongues, Dholuo or Gikuyu. The assessment data allowed the study to compare reading and comprehension rates across languages. The data indicated that many children could read English words more easily than words in Kiswahili or their mother tongue; nevertheless, their reading comprehension was significantly lower in English than in Kiswahili, Dholuo or Gikuyu because teachers did not use pre reading activities as they taught. The study concludes that emphasising English reading fluency is an inefficient route to gaining reading comprehension skills because pupils are actually attaining minimal oral reading fluency in English and only modest comprehension skills in their own languages. The evidence also demonstrates that Kenya's national language policy of mother tongue as a medium of instruction in the early primary grades is consistently ignored in practice. It is for this reason that this study explored how multilingual classrooms impact learner reading achievement in the Zambian context.

Phiri & Fita (2021) investigated the difficulties associated with translanguaging in multilingual literacy classrooms in Zambia, using qualitative methods such as classroom observations and interviews. Their research revealed that when the language of instruction did not align with students' dominant languages, learners exhibited reduced concentration and participation. Additionally, teachers faced challenges in implementing translanguaging approaches due to inadequate training and resource constraints. While this study focused specifically on translanguaging difficulties, the current study seeks to explore a broader range of challenges teachers encounter in multilingual learning contexts, beyond translanguaging alone.

Another relevant study, *Transitioning Learners from Literacy Instruction in Local Languages to English in Zambia & South Africa* (2024), explored the shift from local languages to English in literacy instruction. The findings indicated that while some teachers adopted learner-centered approaches and supported multilingualism, others pressured by community expectations favored English instruction, which resulted in students becoming less engaged and quieter. While this study focused on instructional strategies in multilingual contexts, the present study aims to examine the specific challenges teachers face in such contexts, regardless of the strategies they employ.

Similarly, Erling et al. (2017), in their report on multilingual classrooms in Ghana and India, used classroom observations and interviews to examine the implementation of English Medium Instruction (EMI) in low- and middle-income contexts. The study found that rigid

language policies and insufficient training in multilingual pedagogies hindered effective teaching. Consequently, many teachers relied exclusively on English, which limited student comprehension and engagement. While their study examined EMI-related difficulties, the current study seeks to understand the general challenges of teaching in multilingual learning contexts, such as those in Livingstone District, Zambia.

A study examining the challenges of teaching English in multilingual classrooms reviewed existing literature to assess the impact of diverse linguistic backgrounds on English instruction. The study concluded that the presence of multiple ethnic and linguistic groups complicates the teaching process, making it difficult for educators to effectively deliver English lessons to linguistically diverse students. While this study focused specifically on the teaching of English, the present study aimed at investigating the broader challenges teachers face in multilingual learning contexts, regardless of the subject being taught.

On a global scale, Tuimebayeva et al. (2024) conducted a literature review on multilingual education, identifying key approaches, challenges, and best practices in developing multilingual competence among future educators. Their research emphasized the need for teacher training reforms to equip educators with strategies for managing linguistic diversity. Challenges included the adaptation of teaching methods to varied linguistic settings and limited availability of instructional resources. While this study addressed teacher competence in multilingual education, the present study sought to highlight the specific challenges that teachers in multilingual learning contexts face in Zambia.

In Zambia, Nyimbili & Mwanza (2021) conducted a qualitative study on translanguaging challenges in first-grade multilingual classrooms. Through classroom observations and teacher interviews, they found that the disconnect between the official language of instruction and students' home languages negatively impacted student engagement and literacy acquisition. Furthermore, rigid language policies that promoted monolingual instruction hindered the implementation of translanguaging strategies. While this study focused exclusively on translanguaging, the present study examined the general challenges faced by teachers in multilingual learning environments.

Hasanah & Utami (2019) explored the challenges of teaching English in non-native English-speaking nations by interviewing seven English teachers from China, Japan, Thailand, Senegal, Mongolia, Cambodia, and Laos. Their qualitative research identified key obstacles,

including misalignment between learning materials and students' needs, large class sizes, and low learner motivation, all of which impaired effective English instruction in multilingual settings. While this study provided an international perspective on English instruction, the present study specifically seeks to confirm and contextualize the challenges teachers face in multilingual learning settings in Zambia.

A study titled *Overcoming Teaching Challenges in Multicultural and Multilingual Classrooms* (2024) employed a literature review methodology to investigate teaching difficulties in linguistically and culturally diverse classrooms. The study emphasized that language barriers often lead to misunderstandings and critical incidents, underscoring the necessity of intercultural education and inclusive teaching practices that respect and integrate all languages and cultures. However, while this study highlights the need for inclusive teaching practices, it does not examine the specific role of formal teacher competence in addressing these challenges, particularly how teachers' content and pedagogical knowledge impact learner reading achievement in multilingual settings.

Overall, these studies highlight the complex challenges associated with teaching in multilingual classrooms, such as language mismatches, rigid language policies, insufficient teaching materials, overcrowded classrooms, and low student motivation. While these issues are well-documented, there is limited research on how formal teacher competence including training, pedagogical strategies, and subject knowledge affects literacy outcomes in diverse linguistic environments. Addressing this gap is essential for improving teacher effectiveness and ensuring that multilingual learners achieve better reading proficiency.

In addition, Desta (2020) conducted a study to investigate practices of teaching early reading and challenges teachers face in its implementation at the Ethiopia primary schools. The study was carried out in 224 grade two government primary schools found in the Amhara National regional State, west Gojjam zone, Ethiopia, in 2019/2020 academic year. To attain this objective, a descriptive research design was employed. The participants of the study were 112 English language teachers enrolled in the primary schools at Dembecha woreda, Jiga woreda, Jabitehinan woreda, and Bure woreda in west Gojjam zone. Interview, questionnaire, and observation were used to gather data. The findings revealed that teachers failed to practice the teaching of early reading in line with the purposes and principles of teaching early reading. Teachers used traditional way of teaching approach in teaching reading. The study also showed that teachers were deficiently trained regarding phonological awareness, alphabetic.

Besides, lack of teacher training, lack of materials, and unrelated educational qualification were major impediments of teachers while implementing teaching early reading. This study was very important to the current study as it brought out issues regarding practices of teaching reading and challenges teachers face. However, it did not recommend the practices that would be used to teach reading, which was the main target of the current study.

Additionally, Haile & Mendisu (2023) conducted a study to identify the challenges affecting teacher practice of phonological awareness (PA) in the first-grade classrooms of the teaching of the Koorete language in Ethiopia. The study adopted the descriptive research design using the survey method and exploratory case study technique, and it was conducted in selected schools in Amaro in the Southern part of Ethiopia. Thirty participating schools were selected through stratified sampling, and 30 native-language teachers were selected through targeted sampling from the selected schools based on their qualifications, experience, and recommendations for merit. Classroom observations, in-depth semi structured interviews, and questionnaires were used to collect data. The recorded data was then transcribed, translated, analysed, and then it was thematically discussed. The results of the study showed that a lack of subject content and pedagogical knowledge, inadequate teaching materials, inadequate teacher-training programs, a lack of an enabling, literacy-rich environment, and a lack of in-service training in the first grades pose major challenges. The study recommends that teachers need to be adequately equipped with content and pedagogical awareness, to be provided with phonological awareness resources, and they require support by way of in-service training to enhance the teaching of native-language reading skills in early grades. In as much as this study is pertinent to the current study, it was meant to identify challenges affecting teacher practice of phonological awareness in particular, in the first-grade classrooms of Ethiopia whereas the current study intends to investigate the primary challenges faced by teachers in multilingual classrooms impacting learner reading achievement in Zambia. Therefore, its objectives could not be nullified by the study under review whose aim, objectives and research sites were totally different.

Further, Ekeh, Jacob, Pillay & Idemudia (2023) conducted a study to examine reading comprehension strategies adopted by teachers to enhance reading comprehension among primary school learners. This study adopted a qualitative research method with an interpret visit paradigm. Ten (10) teachers were purposively selected for the study one each from ten (10) primary schools. Data was collected the selected participants using semi-structured

interview. The researchers ensured the trustworthiness of the interview through disclosure and corroboration. The data collected were transcribed for the purpose of analysis using the atlasti software and the thematic data analysis technique. Findings indicate that some teachers did not understand the various strategies to optimise reading comprehension. Teachers also lacked knowledge of the different learners learning preferences to plan their reading comprehension lessons. Furthermore, the lack of appropriate reading material and differentiated reading exercises for slow learners were highlighted among the challenges that hampered reading comprehension. The study recommends capacity-building programmes to provide strategies for differentiated teaching, to learn to accommodate slow learners and to provide appropriate resources by the education department. Nevertheless, the use of a single research instrument, semi-structured interview, cannot give an in-depth insight of the problem under investigation. However, the current study used open ended interviews and classroom lesson observations to establish the real issues surrounding the matter in depth.

Furthermore, Cekiso (2017) conducted a study in South Africa to establish the Foundation Phase teachers' perceptions of their role in teaching. Semi-structured interviews were conducted with nine teachers who were purposively selected from three public schools. Content analysis was used to analyse the data. Regarding the initial training programme, teachers received at tertiary institutions, the findings of the study showed that the majority of teachers were not adequately prepared to teach reading and to deal with learners who experience problems in reading. Some teachers indicated that they were not even trained to teach in the Foundation Phase. The findings also showed that the majority of respondents doubted if their classroom practice would yield positive results as far as reading instruction is concerned. The findings further indicated that the majority of respondents only paid attention to oral reading without attending to reading comprehension. There was a general consensus that the new ways of teaching reading were necessary in order to improve the reading ability of learners. This study is related to the current study in that it brought out challenges in implementing reading interventions.

Chipili (2016) carried out a study to investigate factors that contribute to the poor performance in reading of grade 2 learners in selected primary schools which fall in low and high populated areas of Chibombo district. The research was conducted in seven primary and three community schools. The study focused on Grade 2 learners. The sample involved teachers teaching grade two pupils and other teachers teaching grades one to four pupils from

primary and community schools and ten learners from each school. In this study there were a total of one hundred twenty two (122) respondents. The learners were assessed in Chitonga on the letter sound knowledge and Oral Passage Reading, to determine if they are able to identify the sounds and read them'. The findings showed that teachers were playing a key role especially in the preparation of the decodable stories; they were able to create stories using the sound and syllabus of the day. However, the analysis indicated that teacher- learner interaction was not adequately implemented. Most teachers were having double classes due to low staffing levels and high pupil enrollment. Some teachers were in a hurry of teaching in order to finish the syllabus. The passion of identifying a learner as an individual is therefore not effectively applied. The findings showed that community school teachers were not motivated especially where payments were concerned. The reviewed study investigated the factors that contribute to poor performance in reading of grade 2 learners while this study explored the challenges faced by teachers in multilingual classrooms impacting learner reading achievement. Therefore, it was prudent that is undertaken.

Also, Lungu (2019) conducted a study to establish the effects of the use of Chinyanja as a medium of classroom instruction in selected primary schools in multilingual Chilanga district. The study employed a qualitative research design and Purposive and random sampling techniques were used to come up with 26 respondents. Data was collected through, interviews, document analysis, focus group discussions and classroom observations of literacy lessons. The study established that teachers taught literacy using both Chinyanja and English by code switching and code mixing. The study further found that some primary schools in the sampled schools had a slight increase in reading levels while others had low reading levels. Generally, reading levels were still low in most schools sampled among grade three learners who had followed PLP for three years. These low reading levels were attributed to many other variables which include difficulties in the techniques used in the new literacy policy, Pupils absenteeism and lack of reading and learning materials. Further, some teachers as well as pupils did not have much knowledge on the language of classroom instruction (Chinyanja), both had to learn the language used first before the teaching and learning sessions. Some respondents alluded to poor pupil performance as a result of teachers not being adequately trained on the new language policy. Moreover, parents were not happy with the new language policy of using local languages as language of classroom instruction from grade one to four. They preferred that their children to be taught the English language, they felt it was an official language for literate people as compared to an inferior language

(Chinyanja). The conclusion of the study was that reading levels were still low in sampled primary schools in Chilanga District. The study by Lungu looked at the effects of Cinyanja as a medium of classroom instruction in selected primary schools in multilingual Chilanga district. On the contrary, the current study looked at primary challenges faced by teachers in multilingual classrooms impacting learner reading achievement.

Another study by Mubanga & Musenge (2020) investigated the challenges teachers faced in the process of teaching reading phonic and sight words to fourth grade learners in the selected primary schools of Lusaka district Zambia. A questionnaire was administered to 100 learners who had just completed their fourth grade and another questionnaire to 20 fourth grade teachers in five primary schools. Class observations were done and interviews were conducted with the school administrators. Quantitative data was analysed through the Statistical Package for Social Sciences (SPSS), while the thematic approach was used to analyse qualitative data. The findings of the study indicated that some children absconded themselves in the early days of their first grade (grade one) where early reading was introduced hence failed to cope up with reading Phonic and Sight words. The other challenge was over enrollment of pupils in the schools in the early grades because the government schools were few in the area hence teachers failed to pay attention to learners with learning difficulties due to the high pupil to teacher ratios. The other finding from the study was that there was shortage of appropriate quality teaching and learning materials for early grade reading in the primary schools of Lusaka district. This study by Mubanga and other investigated the challenges teachers faced in the process of teaching reading phonic and sight words. On the contrary, this study investigated challenges faced by teachers in multilingual classrooms impacting learner reading achievement.

Similarly, Nambao & Mwanza (2023) conducted a study to establish the teachers' views on teaching oral reading fluency in grade 5. A phenomenological research design was used in this study because the research question called for interaction with the participants in their environment. The study sampled six schools, two schools each from Kitwe, Lusaka, and Livingstone towns of Zambia. From these schools, 12 grade 5 teachers were purposively sampled in the study. In this study, grade 5 teachers who were teaching language were interviewed in the selected primary schools in Zambia. The study found that teachers held a view that Oral Reading Fluency (ORF) is a skill that can only be taught in lower primary grades (1-4) and not in upper primary grades (5-6). Teachers have the content knowledge of

ORF but lack the pedagogical knowledge to teach fluency to Grade 5 learners. Teachers acknowledge the importance of ORF but deny its power on struggling learners in Grade 5 classrooms. Therefore, non-teaching of oral reading fluency in Grade 5 might be an explanation to why learners still face challenges comprehending what they read in the Zambian primary schools. It was then recommended that teachers should ensure they teach ORF to enable learners to become fluent in reading whilst in primary schools. The study under review was very significant in that it brought out perceptions that some teachers in primary schools have towards the teaching of oral reading fluency to grade 5 learners as they submitted that the skill (ORF) only needed to be taught to lower primary grades. This explains why the current study targets challenges faced by teachers in multilingual classrooms impacting learner reading achievement using different research cite and study sample.

2.5 Strategies to enhance teacher competence in multilingual learning contexts for improving learner reading achievement

Artelt & Schneider (2015) conducted a study on cross-country generalizability of the role of metacognitive knowledge in students' strategy use and reading competence. The study used a cross-sectional correlational design. It draws on representative samples of fifteen-year-old students from 34 OECD countries taking part in the PISA 2009 study. The relations between students' reading competence scores, their metacognitive knowledge as well as their self-reported use of learning strategies were analysed. The study used correlations, mediation, as well as moderator regression analyses to predict students' reading competence. Results showed consistently moderate to high correlations between metacognitive knowledge and reading competence. There were also lower, but still significant, relationships between strategy use and both reading competence and metacognitive knowledge. Testing a "mediator model" with strategy use as a mediator resulted in small but significant effects of strategy use as mediator. Assuming that metacognitive knowledge might be a necessary precondition for effective strategy use, the study tested whether it served as a moderator. Results confirmed this moderator effect for many but not all countries. However, across all countries, there was a consistently high effect of metacognitive knowledge on reading competence, independent of the level of self-reported use of strategies. The results are very similar across countries. Taken together, the findings suggest that metacognitive knowledge as measured by a test tapping declarative, conditional and relational strategy knowledge is an important predictor of students' reading competence and contributes significantly to our understanding of what

helps students to become better readers. Metacognitive knowledge captures the prerequisite of adaptive strategic processing of texts. Increasing students' knowledge in this domain is a promising approach when it comes to fostering self-regulated reading. This study was cardinal to the current study as it provided data on strategies enhancing teacher competence in multilingual learning environment improving learner reading achievement. Therefore, this study was worth undertaking.

The study by Cheryl L. Lehman (2017) emphasizes the importance of multicultural competence for preservice teachers, especially in diverse classrooms. Multicultural competence refers to the ability to understand, respect, and incorporate various cultural perspectives into teaching practices. In classrooms with students from diverse cultural backgrounds, this competence is seen as a fundamental factor for effective teaching and fostering an inclusive learning environment. However, while the study acknowledges the significance of multicultural competence, it lacks an in-depth exploration of how this competence directly influences reading achievement in multilingual classrooms.

Future research could delve deeper into this issue by examining how teachers' understanding and application of multicultural teaching strategies impact the literacy development of students from diverse linguistic and cultural backgrounds. Multilingual classrooms are often characterized by varying levels of proficiency in the language of instruction. Therefore, it is crucial to investigate whether teachers' multicultural competence, including their knowledge of students' cultural contexts, leads to improved reading outcomes. This research could explore how teachers' skills in integrating cultural elements into reading instruction influence students' engagement with reading materials, their comprehension skills, and their overall reading achievement.

The research conducted by Teachers' Understanding and Attitudes towards the Eclectic Method to Language Teaching (2019) in Zambia identifies challenges in implementing the eclectic method in classrooms due to limited professional development opportunities for teachers. The eclectic method involves using a variety of teaching approaches and techniques, drawing from different teaching methods to address the diverse needs of students. While the study discusses the challenges of implementing this method, it does not explore the direct impact of teachers' competence in using eclectic methods on student reading achievement, particularly in multilingual contexts.

The eclectic method can be highly effective in multilingual classrooms because it allows teachers to tailor their instruction to the specific needs of learners, who may be at different levels of proficiency in the language of instruction. Further research could examine how teachers' ability to effectively employ multiple teaching methods and strategies contributes to the reading development of multilingual learners. For instance, the study could investigate whether teachers who are skilled in using a range of methods such as phonics, whole language, or task-based approaches are more successful in improving reading outcomes for students from diverse linguistic backgrounds. Understanding the relationship between teacher competence in using eclectic methods and student reading achievement could help shape teacher training programs that prepare educators to meet the needs of multilingual learners.

The study on *Strategies for Educators of Bilingual Students* (2018) emphasizes the importance of culturally responsive teaching, which involves integrating students' cultural knowledge, experiences, and perspectives into teaching practices. Culturally responsive teaching aims to create a learning environment that is relevant and meaningful for students from diverse cultural backgrounds. However, the study does not investigate how culturally responsive teaching strategies specifically impact reading achievement, particularly in multilingual classrooms.

Culturally responsive teaching is especially important in multilingual settings, where students often bring a rich diversity of cultural and linguistic experiences to the classroom. Research could focus on how teachers' competence in integrating community and cultural elements into their teaching methods affects bilingual students' reading performance. For example, teachers who incorporate literature, history, and traditions from students' cultural backgrounds into reading instruction may foster a deeper connection to the reading materials, leading to improved comprehension and literacy skills. Future research could examine the specific strategies that teachers use to make reading instruction more culturally relevant and how these strategies affect reading outcomes. This could provide valuable insights into the role of cultural competence in supporting literacy development among multilingual students.

Gulimzhan Tuimebayeva et al. (2020) argue for the need to reform teacher training programs to address the needs of multilingual learners. In particular, they call for reforms that better equip teachers to address the challenges of multilingual education. However, their study does not establish a direct link between these reforms and measurable outcomes in student reading achievement. While teacher training reforms are essential for improving the quality of

education, there is a need to assess how these reforms translate into improved literacy outcomes for students.

Further research could assess the impact of specific teacher training programs on students' reading achievement, particularly in multilingual classrooms. For instance, research could focus on how teachers' competence in task-based learning and project-based learning both of which emphasize active engagement and collaboration affects students' reading comprehension skills. Teachers who are trained in these methods may be better equipped to design lessons that promote critical thinking, problem-solving, and collaborative learning, all of which can enhance reading comprehension. By measuring the effects of teacher competence in these teaching methods, future studies could clarify the role of these strategies in fostering better reading outcomes for multilingual learners.

Wise Mwelwa & David Sani Mwanza (2021) emphasize that teachers' strategies play a crucial role in developing communicative competence among students. Communicative competence refers to the ability to effectively use language in various contexts for communication. While the study acknowledges the importance of communicative strategies in language development, it does not explore how these strategies directly impact reading achievement. In multilingual classrooms, communicative competence is closely tied to reading comprehension, as students need to understand both the spoken and written forms of the language of instruction to succeed in reading.

Further research could explore the direct impact of teacher competence in communicative strategies on students' reading proficiency. For example, teachers who use strategies such as questioning, discussion, and interactive reading may help students develop the skills needed to comprehend and interpret texts more effectively. A focus on how these communicative strategies influence reading outcomes in multilingual settings could provide a deeper understanding of their role in improving literacy among multilingual students.

Aifang Xu et al. (2019) highlight the role of multicultural literature in fostering intercultural competence, which refers to the ability to understand and appreciate cultural differences. Multicultural literature can be an effective tool for promoting cultural awareness and empathy among students, particularly in diverse classrooms. However, the study does not consider how teachers' competence in integrating multicultural literature into their lessons affects reading outcomes. While multicultural literature may enhance students' intercultural

understanding, it is also important to examine how it contributes to the development of reading skills.

Future research could investigate how teachers' ability to incorporate multicultural literature into their lessons influences students' reading achievement in multilingual classrooms. Teachers who are skilled in selecting and using multicultural texts may help students engage with reading materials that reflect their own cultural backgrounds, as well as the cultures of their peers. By fostering a connection to the literature, teachers may enhance students' motivation to read, leading to improved comprehension and literacy outcomes. Research could explore the specific ways in which teachers use multicultural literature to support reading development and how this impacts students' literacy skills in multilingual settings.

The research on the implementation of competence-based curricula in Sub-Saharan Africa, including Zambia, identifies challenges in curriculum implementation but does not address how teachers' competence in delivering competence-based curricula impacts students' reading achievement. Competence-based curricula are designed to focus on the development of specific skills and competencies, such as reading, writing, and critical thinking. However, the success of these curricula depends on teachers' ability to effectively deliver them in the classroom.

Further studies could examine the direct relationship between teacher competence in implementing competence-based curricula and students' success in reading, particularly in multilingual contexts. Teachers who are well-trained in delivering competence-based curricula may be more effective in supporting students' literacy development. Research could assess how teachers' ability to design and implement reading-focused lessons within a competence-based curriculum influences students' reading comprehension skills. By exploring this relationship, future studies could help clarify how teacher competence in delivering competence-based curricula contributes to improved reading outcomes for multilingual learners. The studies discussed highlight the importance of teacher competence in various forms such as multicultural competence, competence in using eclectic teaching methods, and competence in integrating culturally responsive and task-based learning strategies yet they all reveal gaps in understanding how these forms of competence directly influence student reading achievement, particularly in multilingual classrooms. Further research is needed to investigate how teachers' competence in these areas impacts students' literacy development and reading outcomes. Understanding these relationships can inform

teacher training programs and instructional practices that better support the literacy development of multilingual learners.

Froiland & Oros (2014) study investigated the effects of intrinsic motivation, perceived competence, classroom engagement and extrinsic motivation on reading development among youth. Using a nationally representative sample of students in the US, the researchers followed students longitudinally from fifth to eighth grade. Reading achievement was measured using composite tests of vocabulary, reading comprehension and sight-word identification. Hierarchical linear regression was used to examine the effect of students' perceived intrinsic motivation and competence, as well as teacher rated classroom engagement in the 5th grade, on reading achievement in the 8th grade. Important control variables were utilised such as gender, family SES, race/ethnicity and prior reading achievement. The results showed that intrinsic motivation to read, perceived competence and engagement in 5th grade significantly predict reading achievement in 8th grade. The importance students placed upon grades also predicted reading development. Implications for promoting intrinsic motivation and strong engagement in schools are discussed. The study current study is worth undertaking as it provides data on strategies enhancing teacher competence in multilingual learning that improve learner reading achievement.

Caena & Redecker (2019) conducted a study whose purpose was on aligning teacher competence frameworks to 21st century challenges in Europe. Teachers need to update their competence profiles for 21st century challenges. Teaching strategies need to change and so do the competences teachers need to develop so as to empower 21st-century learners. The European Framework for the Digital Competence of Educators (DigCompEdu) represents a paradigmatic example of this endeavour, taking stock of these needs. Defining the requirements of education professionals by teacher competence frameworks can serve multiple purposes at different levels in education systems. At the micro level, it can support and guide teachers' practice and continuous professional development. At the meso level of local education governance, it can support the development of school institutions as learning organisations, providing common ground for dialogue, collaboration and reflection in professional communities of practice. At the macro level of quality assurance, it can provide reference standards for initial teacher education, and for education professionals' quality along the career continuum. The European Framework for the Digital Competence of Educators was designed to align with institutional and contextual requirements in different

countries, whilst remaining open to adaptation and updating. It links teachers' and students' digital competence development, and can be linked to institutional capacity building. At the same time, the framework is generic enough to apply to different educational settings and to allow for adaptation as technological possibilities and constraints evolve. Whereas the study under review was on aligning teacher competence frameworks to 21st century challenges in Europe, the current study focus is on establishing strategies that can enhance teacher competence in multilingual learning improving learner reading achievement in the Zambian context.

Gess-Newsome, Taylor, Carlson, Gardner, Wilson & Stuhlsatz (2017) conducted an exploratory study to measure potential changes in teacher knowledge and practice. The study created an instrument to measure pedagogical content knowledge (PCK), studied the impact of a two-year professional development intervention, explored the relationships among teacher variables to attempt to validate a model of teacher professional knowledge, and examined the relationship of teacher professional knowledge and classroom practice on student achievement. Teacher professional knowledge and skill was measured in terms of academic content knowledge (ACK), general pedagogical knowledge (GenPK), PCK and teacher practice. Our PCK instrument identified two factors within PCK: PCK-content knowledge and PCK-pedagogical knowledge. Teacher gains existed for all variables. Only GenPK had a significant relationship to teacher practice. ACK was the only variable that explained a substantial portion of student achievement. These findings provide empirical evidence that can be interpreted through the lens of the model of teacher professional knowledge and skill, including PCK (Gess-Newsome, 2015). A model of teacher professional knowledge and skill including PCK: Results of the thinking from the PCK summit. It is against this background that the current study was undertaken to develop strategies that can enhance teacher competence in multilingual learning improving learner reading achievement.

Young, Mohr & Rasinski (2015) conducted a survey to establish the effectiveness of Reading Together Intervention which combines repeated reading and Neurological Impress method. Sixteen volunteers from various backgrounds were recruited and trained to deliver Reading Together Intervention to struggling readers in third through fifth grade. The differences on the outcomes measures between the treatment ($n = 29$) and comparison ($n = 23$) were statistically significant. Thus, students in the treatment demonstrated increased reading expansion, reading rate, and overall reading scores. Results suggest that Reading Together is

a feasible method of increasing proficiency. The study only concentrated on the effectiveness of a reading intervention without investigating the possible strategies enhancing teacher competence in multilingual learning improving learner reading achievement, a component that will be addressed by the current study.

Ceyhan & Yildiz (2021) conducted a study to examine the effect of interactive reading aloud (IRA) lessons on students' reading comprehension levels, reading motivation, and reading fluency skills. A mixed experimental design was used to model the study. This study was conducted in a Turkish public school in the academic year 2017 - 2018, with 62 second - grade students, 22 in the first experimental group, 20 in the control group, and it lasted for 11 weeks. The IRA lessons within the research scope were performed by the researcher in one experimental group and a second - grade teacher who was responsible for the class itself in the other experimental group. Reading comprehension, Rubric, Motivation to Read Profile Scale, and Rubric for Reading Prosody were used as data collection tools. The findings of the study revealed that reading comprehension, reading motivation, and reading fluency levels of the students in the experimental group were higher than those of the students in the class where lessons were taught on the basis of the current Turkish lesson curriculum. Furthermore, it was determined that IRA practices improved students' levels of reading comprehension, reading motivation and reading skills, independently of the practitioner. This study was very pertinent to the current study. However, it was conducted at second grade level while the current research was conducted in Zambia.

Shenoy, Lyer & Zahedi (2022) conducted a study to examine how phonics based instruction with early English literacy outcomes for students in kindergarten. Their sample comprised 627 students attending a private middle cost school in Mumbai, India where the language of instruction was English. Students were tested for early literacy skills in kindergarten using the DIBELSNext benchmarking measures. They compared groups of students who received no phonics (n = 165) to students who received one year of phonics (n = 234) and students who received two years of phonics (n = 228) respectively. Their results suggested that students who received both one and two years of phonics instruction in preschool significantly outperformed those who did not receive any phonics instruction on all the skills assessed. Moreover, the risk of students being at risk for reading difficulties reduced significantly with an increase in years of phonics instruction. The study by Shenoy and others is important to the current study in that it revealed a phonics instruction as a useful intervention in the

teaching of reading fluency. Nevertheless, the study was conducted a very low level (preschool), where the teaching of reading fluency may not be applicable according to Zambian education curriculum. Therefore, this study aimed to establish strategies enhancing teacher competence in multilingual learning improving learner reading achievement. Further, the current study will highlight the direct link between teacher competences in multilingual settings and reading outcomes, exploring thematic issues such as past training, resource availability, and language support.

Taguchi, Gorsuch & Mitani (2023) conducted a study to explore whether the Audio Assisted Repeated Reading (RR) method facilitates readers' fluency growth. The study focused on 27 U.S. College level learners of Japanese comprising three ability groups from mid beginners to low intermediate. The researchers found beneficial effects of audio supported RR in terms of reading rate growth while learners maintained good comprehension. The study showed a significant practice effect, in which learners increased their reading rates while re-reading the same passage. Further, learners in one of the groups read significantly faster with a new, unpracticed passages representing transfer of practice effect. The results of this study were very influential to the current study in that they revealed an effective method that could be used to teach reading fluency. Nonetheless, their study targeted a very high level in the education hierarchy (college) besides having been conducted in the United States of America. The current study will be conducted in Zambia and will also seek to examine teacher competences linked to teaching in multilingual environment improving learner reading achievement. Therefore, the current study remains very significant.

Suwandi & Wardhani (2023) conducted an audio research to improve the quality of reading learning for elementary school students affected by the Mount Sinabung disaster in the Siosar Shelter area, Indonesia. Reading problems experienced by students include difficulty recognizing letters, spelling stammering, difficulty reading words, not paying attention to punctuation, not understanding the content of reading and low motivation to learn. The action taken to solve the problem was to utilize a literacy workshop assisted by audio-visual media. The study was carried out in two cycles with two meetings each. Data were collected through tests, observations, analysis of documents and interviews. Data analysis was carried out quantitatively and qualitatively. The results of the study showed that the quality and process of reading results improved after the action (the average initial condition of 52.23 increased to 81.06). The findings were reinforced by T-test results that showed that there were

significant differences in reading competence in pre-action and in the post-action and the results of the second cycle actions. The study only examined the use of a literacy workshop assisted by audio visual media in improving the quality of reading among students affected by mount Sinabung disaster in siosar shelter area in Indonesia. On the contrary, the current study sought to establish strategies enhancing teacher competence in multilingual learning improving learner reading achievement in Zambia.

Arevalo (2023) conducted a study to evaluate the effectiveness of remedial reading instructions provided to the pupils aiming to improve their literacy levels. A quasi experimental research design employing pre-test and posttest to evaluate the effectiveness of remedial reading instructions in improving the literacy levels of the identified frustrated readers in Grade 4. Simple percentage and T-test of mean difference were the statistical tools used to interpret the result of the study. The study revealed a significant difference in the literacy programme of the Grade 4 pupils before and after the implementation of remedial reading instruction through the utilization of the teacher made activities and reading materials. The study also indicated that since pupils have different needs, it is crucial that their reading instruction be as closely tailored to their actual needs as possible. Thus, making remedial reading instructions an effective strategy in helping and making pupils learn to read. The study under review evaluated the effectiveness of remedial reading instructions provided to the pupils to improve their literacy levels whereas the current study explored teacher competence in multilingual learning improving learner reading achievement.

In multilingual communities, schools often encounter situations where some learners and teachers face challenges with the authorized language of instruction because of linguistic diversity. To address such challenges, the use of bilingual approaches becomes inevitable. Therefore, Khaled (2024) conducted a study to investigate the role of bilingual education on literacy rates in Algeria. This study adopted a desk methodology. A desk study research design is commonly known as a secondary data collection. This is basically collecting data from existing from existing resources preferably because of its low cost advantage as compared to a field research. Thus, the study looked into already published studies and reports as data were easily accessed through online journals and libraries. The findings established that bilingual education in Algeria, involving Arabic and French, has positively impacted literacy rates. Students in bilingual programs generally achieve higher literacy in both languages compared to monolingual peers. The success varies based on teaching quality

and available resources, but overall, bilingual education promotes better literacy and educational outcomes. The study under review is very essential to the current study as it brought out a pertinent alternative of teaching reading in multilingual setups. However, the reviewed study adopted a desk methodology while the current study is a phenomenology field research which seeks to bring out participants' lived experiences.

Teachers can make learning environments influential in the development learners' reading fluency. In this regard, Lee, Puplampu & Zuilkowski (2023) conducted a study to explore teachers' behaviour around the organization of classroom literacy environments in Zambia and Mozambique. The multi-case study drew face to face interview data from 16 grade 2-7 primary school teachers in Zambia and 21 grades 1-5 primary school teachers in Mozambique. Data were analysed thematically and compared across countries. Findings highlight a need for more funding around the basic provision of classroom literacy material to combat shortages, as is typical of low and middle income country contexts. The data also revealed potential in the development and use of locally sourced classroom literacy materials, both by the teachers and school leadership or other stakeholders. The study being reviewed here was conducted in two countries; thus, the findings may not be authentic enough as the site has varying conditions influencing the teaching/learning of literacy. However, this study was conducted in one site; therefore, results were expected to be authentic as it only concentrated on one phenomenon, learner reading achievement, and not 'literacy' which is a multifaceted concept.

The use of a learner's language of play is very instrumental in skills transfer, not only in general learning but also in reading fluency development in particular. In this vein, Kula & Mwansa (2022) investigated the use of a familiar language, Namwanga in Northern Zambia, in the context of a regional language, Bemba. The study shows that learning of literacy in the regional language is better supported by classrooms that allow free use of the 'home' language or mother tongue. Findings from a reading and comprehension task show no hindrance to the achievement of reading fluency in a regional language when a familiar language is encouraged in the classroom. Thus, the study provides support for multi-literacy developed through languages learners are exposed to in their environment rather than a foreign language. While the study by Kula & Mwansa concentrated on the language factor's influence in the teaching/learning of literacy, the current study paid attention to strategies

enhancing teacher competence in multilingual learning improving learner reading achievement.

Mkandawire, Zuilkowski, Mwansa & Manchishi (2023) conducted a study on instructional strategies used by teachers in multilingual classes to help non-speakers of the language of instruction learn initial reading skills in Zambia. Qualitative data was collected through face-to-face interviews, focus groups, and lesson observations with 23 Grade One teachers. Data collected were transcribed and qualitative content analysis was performed through a meaning condensation process. Findings of the study revealed that teachers in multilingual classes used translanguaging, bilingual materials, remediation and reading interventions strategies to teach literacy among early graders. Further, parents, multilingual teachers, and bilingual learners were also used as resources in multilingual classes. The study recommended that the government should develop and implement a strong simultaneous bilingual or multilingual literacy programme to reflect community languages and avoid imposing monoglossic language ideologies across schools. Early grade teachers should be allowed to use diverse pedagogical approaches in the teaching of reading in multilingual classes within the mainstream curriculum. The study under review was on instructional strategies used by teachers in multilingual classes to help non-speakers of the language of instruction learn initial reading skills while the current study sought to identify strategies enhancing teacher competence in multilingual learning improving learner reading achievement, making the two studies different.

A study by Lungu (2024) investigated instructional strategies teachers use to teach reading comprehension to grade 3 learners, in the English language as they transitioned from learning in Kikaonde language. Qualitative approach was used and a descriptive research design was adopted. The sample included 5 primary schools, 8 senior teachers and 13 teachers. Data was collected using structured interview guides, classroom observation guide and document review checklists. Data was analysed using thematic analysis. The study found that teachers used strategies such as group work, pair work read and aloud and whole class to teach literacy in English. The study also found out that teachers lacked understanding of how to use the instructional strategies to teach reading comprehension at grade 3 as they transitioned into learning in English. The study further found that use of: systematic explicit instruction, making connections with text, teaching words in isolation, in context, graphic organisers, visual evidence, peer assisted, translanguaging, text structure, summarising important points,

scaffolding, visualising, predicting, sandwiching, and read aloud were effective multilingual instructional strategies to teaching reading comprehension in English. While the study under review investigated instructional strategies teachers use to teach reading comprehension, the current study sought to establish strategies enhancing teacher competence in multilingual learning improving learner reading achievement.

Further, a study by Nyimbili, Sakala & Mungala (2023) investigated the pedagogical practices teachers use to teach Cinyanja to the Tumbuka learners of Chasefu district. A descriptive phenomenological design was used on the population of teachers, administrators, and learners in Chasefu district who were randomly sampled. The study sample was 60, which included five (5) deputy head teachers, five (5) heads of department for the department of Literature and Languages, ten (10) teachers of Cinyanja, and forty (40) pupils in five secondary schools. Data was collected through interviews, classroom observation, and focus group discussion guides. The findings revealed that teachers avoided certain pedagogical practices they had little or no knowledge about. The common pedagogical practices they used included discussions, individual work, pair work, group work, translation and code-switching. The pedagogical practices they avoided included debate, research, project work, drama, sketch, play activities and simulations and role plays. In terms of pedagogical challenges that teachers faced, the study revealed that there were inadequate teaching and learning materials, low literacy levels among learners, L1 interference causing code mixing in the works of the learners, negative attitude of the learners towards the subject and word for word translation when handling translation exercises. The study under review did not bring out strategies enhancing teacher competence in multilingual learning improving learner reading achievement, a component the current study was focusing on.

Mkandawire, Zuilkowski, Mwansa & Manchishi (2023) sought to understand multilingual teachers' pedagogical approaches to helping non-speakers of the language of instruction learn initial reading (decoding) skills in diverse classes of Lusaka District of Zambia. Qualitative data was collected through face-to-face interviews, focus groups, and lesson observations with 23 Grade One teachers. Data collected were transcribed and qualitative content analysis was performed through a meaning condensation process. Findings of the study revealed that teachers in multilingual classes used translanguaging, bilingual materials, remediation and reading interventions strategies to teach literacy among early graders. Further, parents, multilingual teachers, and bilingual learners were also used as resources in multilingual

classes. The study recommended that the government should develop and implement a strong simultaneous bilingual or multilingual literacy programme to reflect community languages and avoid imposing monoglossic language ideologies across schools. The study under review was not conducted in Livingstone hence this study was relevant to be conducted in Livingstone district.

Phiri (2020) sought to investigate the views of teachers of English on the efficacy of Lesson Study in teaching English among teachers in secondary schools of Lusaka District. The study utilized both qualitative and quantitative methods of data collection and analysis in order to answer the research questions effectively. The total sample size was 104 respondents. The respondents were as follows: 84 teachers of English, 10 Head teachers and 10 CPD coordinators. The study revealed that most teachers of English in the schools that were investigated viewed Continuing Professional Development through Lesson Study as an important programme which improved teaching skills and learners' performance. It also revealed that the challenges that most teachers of English faced in the implementation of Lesson Study was that it was done outside the school timetable without any financial incentives which resulted in their poor attendance for the programme. Another challenge that was revealed by some teachers was that only the teachers who were deemed more competent to teach specific subject content were chosen to individually prepare and teach those areas while the others observed which resulted in the process of lesson study not being as collaborative as it should be. Other respondents stated that they had the challenge of inadequate English teaching materials such as learners' textbooks. Lastly, the study revealed that only a few teachers inserted the programme in their own timetables and annual work plans as strategies for the continuation of Lesson Study. Thus, it was concluded that Lesson Study as practiced in the schools studied was not as effective as it should be. Based on the above findings, the secondary school headteachers should ensure that the Lesson Study programme for teachers of English is included in the weekly timetable in order to make it easier for the teachers to gather and plan for the programme within school hours. The study under review was of CPD while this study was on strategies that can be proposed to enhance teacher competence in multilingual learning contexts in the primary schools of Livingstone district.

Luneta (2019) looked at Designing continuous professional development programmes for teachers: A literature review. The study found that a transformative approach, links reflection and action, and emphasizes increasing teacher capacity for professional autonomy.

Transformative approaches, posit that for CPD to be effective, programs must be experiential, regular, on going, sustainable, supported by administrators, and informed and designed by teachers. These approaches also require the use of learning activities which help teachers attain transformational learning where they make “fundamental shifts in how they view themselves, and then willingly alter their beliefs and values about themselves and their practices. Transformative approach places the students at the center of learning. It helps them find their own inner voice and power; therefore, they feel empowered to effect social change. The approach supports a skills-based, technocratic view of teaching whereby CPD provides teachers with the opportunity to update their skills in order to be able to demonstrate their competence. Usually takes place off the normal school site with the teacher being at the receiving end. Teachers are expected to demonstrate a standard level of skills acquisition. The training approach is acknowledged as an effective means of introducing new knowledge. However, taking into consideration the invisible relationship between teacher qualifications and learner achievements, the cost of training may be too high for teachers or other sponsors who are expected to bear both the direct costs and indirect costs of the training. The study under review was a desk review while this study was a field based research in Livingstone district.

The goal of the research by Alemayehu (2021) was to investigate the nexus between continuous professional development (CPD) and teachers’ teaching competence, action research preparation, mentoring and peer observation in Addis Ababa, Ethiopia’s Gulele sub city’s public schools. By using mixed research design, the descriptive survey approach was used. Purposive, availability, and simple random sample techniques were all utilized in the study. With a total of 340 participants, the sample size was 220 teachers, 30 department heads, 30 principals, 20 vice principals, 10 CPD facilitators, 10 woreda education office experts, 10 cluster supervisors, and 10 sub city education office experts. The findings of this study revealed that Continuous Professional Development (CPD) moderately improved the teachers’ teaching competence, action research preparation, mentoring and peer observation activity unless it is well planned. The study recommended that teacher colleges and universities should emphasise the importance of professional development through multilingual training in the Zambian curriculum implementation. This is the only way literacy teaching would improve as some teachers are not fully prepared for the teaching task. The study under review looked CPD while this study proposed measures to be used when teaching multilingual learners in the Zambian context.

2.6 Chapter Summary

This chapter has presented a review of literature review from different parts of the world Africa and Zambia on each thematic area arising from the objectives. Each study has its own research gap drawn to ground the study. The next chapter presents the adopted theory of the study.

CHAPTER THREE

THEORETICAL AND CONCEPTUAL FRAMEWORKS

3.1. Overview

The theories that guided the study are introduced in this chapter. The Expertise, Translanguaging and Pedagogical Content Knowledge (PCK) theories were used to guide the study, as it focused on Formal Teacher Competence and its Effect on Learner Reading Achievement in Multilingual Learning Contexts of Livingstone District in Zambia. To demonstrate how applicable the theories were to this study, each theory is thoroughly discussed, along with the knowledge that each theory encompasses. This chapter serves as the foundation upon which the research was built, as it introduces the key theories of the study. Specifically, the Expertise, Translanguaging and Pedagogical Content Knowledge theories had been selected as the guiding frameworks for the investigation. Given that the research's primary focus was on Formal Teacher Competence and its Effect on Learner Reading Achievement in Multilingual Learning Contexts of Livingstone District in Zambia, the selection of these theories was deliberate and well-suited to the study's objectives.

In essence, this chapter not only introduced the theories that underpinned the study but also paved the way for a deeper understanding of how these theories intersected with the multifaceted aspects of Grade One learners reading achievement in multilingual learning environments.

3.2. Theoretical Frameworks

3.2.1 Expertise Theory

The Expertise Theory, also referred to as the Theory of Expertise, is a psychological framework crafted to explore the journey individuals undertake to become experts in specific fields. Championed by K. Anders Ericsson, a Swedish psychologist, alongside his collaborators, this theory has been developed over several decades, starting from foundational works in the 1980s and extending through the 2000s.

At its core, Expertise Theory embodies several fundamental principles. Firstly, Deliberate Practice, as emphasized by Ericsson and his team, highlights the paramount importance of focused and strenuous efforts in skill mastery. This entails dedicated practice sessions aimed at improving performance within a specific domain. Secondly, Domain-Specificity

underscores that expertise is often limited to particular areas rather than being universally applicable. This underscores the need to concentrate practice efforts within a defined discipline. Thirdly, Feedback plays a crucial role in the journey towards expertise. It serves as a guiding light, helping individuals identify areas for improvement and refine their skills progressively. Additionally, Adaptability is a hallmark trait of experts. They demonstrate the ability to effectively apply their knowledge and skills across various contexts and scenarios within their domain. Lastly, Mental Representation is a distinguishing feature of experts. They possess intricate mental models of their field, facilitating rapid information processing and informed decision-making based on extensive experience. Overall, these principles collectively form the bedrock of Expertise Theory, delineating the path towards mastery within specific domains.

Mutolwa (2019) argues that the Expertise theory holds that for effective implementation of the curriculum, teachers must be competent and gain expertise in the subject they teach. She further explains that teachers should adequately be prepared to teach literacy in Education. Mutolwa (2019) states expert performance reflects a person's mastery of the available knowledge or current performance standards and relates to skills that teachers and coaches know. The theory places its emphasis on the need for people, in this case teachers, to have mastery of the available knowledge and skills that they need teach learners (Ericsson, 1993). Mutolwa (2019) noted that for teachers to teach literacy effectively in Zambia, they should have both the content and methodology to teach literacy. Manchishi & Mwanza (2013, 2016, and 2018) noted that teachers should be adequately trained in both content and methodology for them to be effective teachers upon graduation from a teacher training institution. This theory is consistent with the views of Baumert et al. (2010); Darling-Hammond (2000); Darling-Hammond & Bransford (2005) & Johansson, Myrberg & Rosén (2015) who also assert that teacher competence or expertise have a positive effect on learner reading achievement. In this study, the theory was used to analyse Teacher Competence variables and their effect on the reading achievement of learners in Livingstone District of Zambia.

3.2.2 Translanguaging Theory

Translanguaging theory, championed by scholars such as Hornberger, Link, Cenoz, and Gorter, emerged from the imperative to address the intricacies of multilingualism in educational settings. Initially introduced by Hornberger and Link in 2012, the theory underscores the deliberate and purposeful utilization of multiple languages in both oral and

written forms within educational environments. Cenoz and Gorter further contextualized the theory in 2011, elucidating its systematic incorporation of languages within the same learning activity. This theoretical framework responds to the linguistic diversity prevalent in educational settings worldwide.

At its core, translanguaging entails the strategic blending of languages to facilitate learning and comprehension, recognising individuals' reliance on their entire linguistic repertoire to construct knowledge effectively. By challenging conventional monolingual approaches to education, translanguaging advocates for the dynamic use of multiple languages as an inherent aspect of the learning process.

This theory encompasses several key principles or characteristics. Firstly, purposeful alternation involves deliberate switches between languages to support predefined learning objectives. Secondly, systematic integration entails the structured inclusion of multiple languages within learning activities. Thirdly, epistemic access emphasizes the promotion of equal access to knowledge by leveraging learners' diverse linguistic backgrounds. Additionally, dynamic use encourages fluidity in language usage, enabling learners to engage meaningfully with content across languages, while legitimacy acknowledges the validity of utilizing all available linguistic resources for learning and communication.

In the context of multilingual literacy classrooms, translanguaging offers manifold benefits, fostering the development of multilingualism and enhancing epistemic access for students from varied language backgrounds. Through translanguaging practices, educators can establish inclusive learning environments where students feel empowered to interact with content in their native languages.

3.2.3 Pedagogical Content Knowledge (PCK) Theory

The Pedagogical Content Knowledge (PCK) theory, introduced by Lee Shulman in 1986, underscores the importance of combining content expertise with pedagogical skills for effective teaching. Shulman proposed that competent teachers must not only have an in-depth understanding of the subjects they teach but also possess the ability to present this knowledge in ways that are clear, engaging, and suitable for learners with different needs. The theory focuses on combining subject matter knowledge with teaching methodologies.

A key principle of PCK is the integration of what to teach (content knowledge) and how to teach it (pedagogical knowledge). Teachers are expected to recognise and address students' prior knowledge and misconceptions to foster meaningful learning. Furthermore, the theory advocates tailoring instructional methods to suit the diverse needs of learners by considering factors such as language, culture, and learning contexts. Effective content delivery, which involves simplifying complex ideas using appropriate strategies and examples, is central to PCK. Additionally, designing and using assessment tools to evaluate and enhance learner learning is an essential component.

The study *Formal Teacher Competence and its Effect on Learner Reading Achievement in Multilingual Learning Contexts of Livingstone District in Zambia* highlights the critical role of PCK in improving reading outcomes. In this study, teacher competence is conceptualised as a combination of qualifications, pedagogical skills, and content knowledge, all of which align with PCK principles.

Firstly, formal teacher qualifications serve as foundational indicators of preparedness. They ensure teachers have acquired essential knowledge in both pedagogy and content. Well-qualified teachers are better equipped to apply PCK effectively, enabling them to tailor instructional methods to the complexities of multilingual classrooms. Pedagogical expertise, another critical component, focuses on the teacher's ability to implement effective teaching strategies. This is particularly important in early grade reading, where differentiated strategies are required to address the challenges posed by learners' varied linguistic backgrounds.

Content expertise is equally vital, as it encompasses a deep understanding of language and reading concepts such as phonemic awareness, phonics, vocabulary, fluency, and comprehension. In multilingual settings, this expertise enables teachers to bridge the gap between learners' home languages and the instructional language. The study emphasises that adapting PCK to the linguistic diversity of classrooms is crucial. Teachers with strong PCK can better navigate these complexities, ensuring that their instructional methods align with students' needs.

The research also demonstrates how PCK impacts reading outcomes. By integrating teacher qualifications, instructional methods, and subject knowledge, PCK fosters improved student engagement, comprehension, and literacy skills. Even in the face of challenges associated

with multilingual settings, competent teachers can create an environment that supports students' academic success.

In summary, the PCK theory provides a robust framework for understanding the relationship between teacher competence and learner achievement. It highlights the importance of blending content knowledge with pedagogical skills to address diverse learning needs, particularly in multilingual contexts. As demonstrated in the study, PCK is not only a theoretical foundation but also a practical tool for enhancing reading instruction, making it a cornerstone for improving educational outcomes in Zambia and beyond.

3.3 Conceptual Framework

The following is a diagrammatical representation of the independent variable and its correlation to the dependent variable.

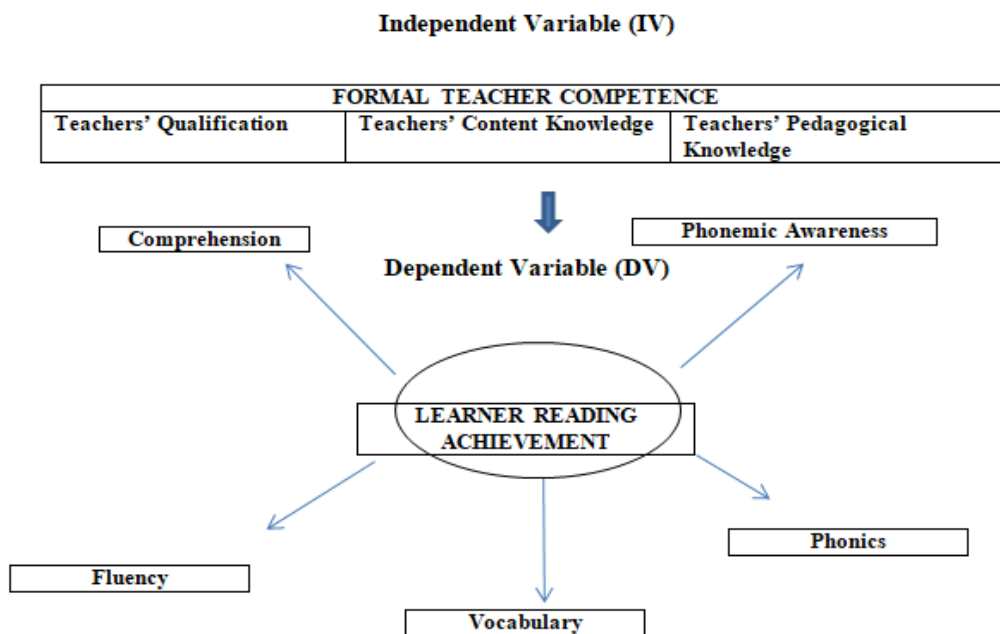


Figure 1: *Conceptual Framework*
Source: *Self-Made*

Teacher competence serves as the independent variable, comprising several factors that collectively enhance a teacher's ability to teach effectively. Firstly, years of experience represent the duration a teacher has spent in the teaching profession, which can significantly impact their teaching effectiveness. Secondly, qualifications refer to the formal education and

certifications that a teacher has acquired, indicating their academic and professional preparedness. Thirdly, content knowledge pertains to the teacher's depth of understanding in the subject matter they are teaching, which is crucial for delivering accurate and comprehensive instruction. Additionally, pedagogical knowledge involves the understanding of various teaching methods and strategies, enabling teachers to employ the most effective approaches in different learning contexts. Lastly, teacher preparation encompasses the training that teachers receive throughout their career.

On the other hand, learner reading achievement is identified as the dependent variable influenced by the teacher's competence. This includes several aspects of reading proficiency. Phonemic awareness is the ability to hear, identify, and manipulate individual sounds in words, forming a foundational skill for reading. Phonics involves understanding the relationship between these sounds and their corresponding letters, facilitating decoding skills. Fluency is the capacity to read text accurately and quickly, which is essential for comprehension and overall reading efficiency. Vocabulary knowledge pertains to understanding word meanings and their appropriate usage, which is crucial for both reading comprehension and effective communication. Finally, listening comprehension involves the ability to understand spoken language, which supports overall language development and reading skills.

The theoretical framework is also presented using the concepts from proposed theories as presented below.

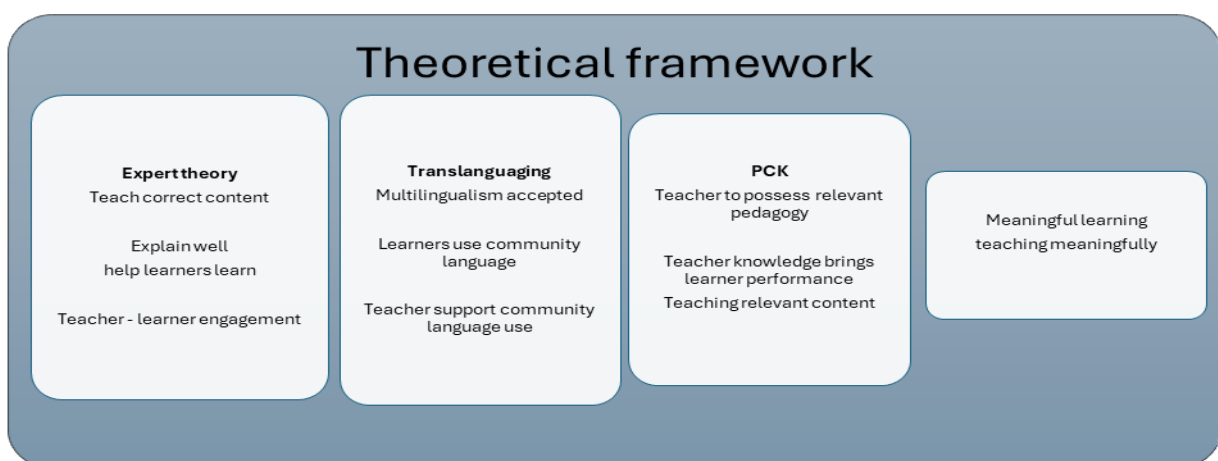


Figure 2: Theoretical framework

The conceptual frame is based on the assumptions drawn from the three theories guiding the study, the teacher's practices, the objectives of the study and the expected outcomes of the study. The teacher is expected to be an expert in the field of study which is items in form of professional qualification which should be relevant according to the level being taught. In this study, the teacher to be competent in the primary school should hold a degree in the primary education for the first entrants while those upgrading should have a primary teacher's diploma then and primary degree. The incompetent teachers are those whose qualifications are not tallying, and these are not experts according to this theory.

Expert teachers understand that teaching learners needs to be flexible. The teachers in multilingual classes have to ensure that they allow learners to use their language for academic purposes and to help them learn in the classroom. Multilingual practices include language liberalization, using different languages for explaining concepts, translating some unfamiliar words and using community languages. This result into improved learner interaction in class as there is no language limitation is imposed, and the teacher uses the multilingual environment to improve learner achievements.

The use of the Pedagogical Content Knowledge emphasizes on the importance of having teachers who are knowledgeable and have the content knowledge to teach the learners at the correct levels. Teacher to possess relevant pedagogy which should make the learners grasp the knowledge they are planned for in the relevant and acceptable manner. In this view, the teacher who has the content knowledge brings about improved learner performance in the classroom. In turn, teachers will be teaching relevant content which is relevant to the learners too.

Through this theory, the study explored how teacher competence (qualification) affected the reading achievement of learners in a, multilingual learning context in Livingstone District. Therefore, the teacher should have acquired relevant content knowledge from their training which directly impacts on learners, as teachers with deep subject matter expertise can teach reading skills more effectively. With the relevant pedagogical knowledge, teachers being able to apply appropriate teaching methods to enhance learner acquisition of reading skills. The combination of the three theories explored the set objectives explicitly in the set study.

3.4 Summary

The presented theories of translanguaging, expertise and pedagogical content theory served as a foundation for the analysis of the teacher competence and its effect on the reading achievement of learners in multilingual classrooms. Translanguaging, as explained in the chapter, involves the use of multiple languages in communication and learning, which is a common occurrence in multilingual contexts. This theory guided the investigation of how teachers and learners employ multilingual strategies to enhance their reading abilities. Through translanguaging, the study explored the role of multilingualism in shaping learners' attitudes and motivation towards reading. Expertise theory, on the other hand, emphasises the importance of the knowledge and skills possessed by teachers in the teaching and learning process. The chapter highlighted how this theory helped to analyse the relationship between the competence of teachers and learners' reading achievement. It guided the examination of how the level of competence of teachers affects the reading achievement of multilingual learners, as well as how teachers' pedagogical strategies can enhance learners' achievement in reading. Overall, the use of the three theories in this study helped to provide a comprehensive understanding of how teacher competence influences reading achievement of learners. The next chapter presents the methodology of the study.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Overview

This chapter presents how the research was planned and carried out. It describes the methods used, why they were chosen, and who was studied. It also covers how the participants were selected, how data was collected, and the tools used for data collection. The chapter discusses how the data was analysed using both qualitative and quantitative methods. It ensures the study is trustworthy and reliable, discusses ethical issues, and acknowledges limitations of the study. Finally, it summarises the main points of the methodology.

4.2 Research Paradigm

A paradigm in research refers to the philosophical assumptions or basic set of beliefs that guide the actions of the researcher (Lincoln et al., 2011). This study was underpinned by a philosophical research paradigm known as pragmatism. Pragmatism as a research paradigm emphasizes the practical application of research methods and the use of plural methodologies to address research questions. It holds that the choice of method should be guided by the research problem rather than adherence to a specific methodological tradition (Maxcy, 2003). Pragmatism values both qualitative and quantitative approaches, advocating for their integration to gain comprehensive insights into the research problem. As Maswoswere (2019) states, pragmatism allows for the understanding of multiple realities through the integration of diverse research methods, encompassing both qualitative and quantitative approaches. The principles of pragmatism include:

1. **Focus on Practical Outcomes:** *The primary criterion for evaluating research is its practical utility and applicability.*
2. **Pluralism:** *Acceptance of multiple methods, perspectives, and standpoints to address research questions.*
3. **Contextualization:** *Emphasis on the context-specific nature of research findings.*
4. **Integration of Qualitative and Quantitative Methods:** *Pragmatism supports the use of mixed methods to provide a more nuanced understanding of the research problem.*

By adopting pragmatism, this study is positioned to leverage the strengths of both qualitative and quantitative methods, ensuring a more comprehensive exploration of the research questions. Pragmatism allows for flexibility and adaptability in research design, enabling the researcher to select and utilize methods that are most effective for the particular study at hand. This approach enhances the depth and breadth of data collection and analysis, facilitating a more balanced and thorough understanding of the research findings.

In this study, the pragmatic paradigm was chosen over other paradigms due to its alignment with the research objectives and the nature of the research problem. Pragmatism's inherent flexibility and emphasis on practical outcomes make it an appropriate choice for studies that aim to integrate diverse data sources and methodologies, ultimately leading to more robust and actionable conclusions.

4.3 Research approach

The research approach employed in this study is a mixed method, combining both qualitative and quantitative approaches. This approach is justified as it allows for a more comprehensive understanding of the research problem by triangulating data from multiple sources. Mixed methods provide both the depth of qualitative inquiry and the breadth of quantitative analysis, addressing complex research questions that cannot be fully answered by a single method alone (Tashakkori & Teddlie, 2020). Additionally, using mixed methods enhances the validity of findings by integrating different types of data, thus offering a more reliable perspective (Plano Clark & Ivankova, 2021). This combination is particularly relevant in social science research, where human behaviour and experiences are multifaceted and best understood through multiple lenses (Fetters, 2023).

4.3.1 Mixed Methods Research

This study design took a Mixed Method perspective. Mixed methods research has been said to be research in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or program of inquiry or in a series of studies that investigate a similar phenomenon (Leech & Onwuegbuzie, 2008; DeCuir-Gunby & Schutz, 2017; Creswell & Plano-Clark, 2018). Johnson & Onwuegbuzie (2004) noted that using a mixed methods approach enables a researcher to provide a superior research and explanation about the phenomenon being investigated as opposed to using the mono method of inquiry.

The motivation for using the mixed methods was because while some objectives required qualitative data and others required quantitative data. In addition, since mixed methods provide triangulation, it was expected that the results of the study would be more superior to if only one design was used. The advantage of using mixed methods research is that it allows the researcher to use both confirmatory and exploratory questions. By using a mixed method, a researcher can confirm an effect on a phenomenon by statistical analysis of quantitative data and then explore the reasons behind the observed effect by using field research, case study data, or surveys (Tashakkori & Teddlie, 2003 as cited in Creswell & Plano-Clark, 2018). A researcher may also use qualitative methodology to generate theory, and quantitative methods to test that theory. Further, Mixed methods research can provide for stronger inferences because the data are looked at from multiple perspectives. For example, quantitative data may be used to measure the success of an intervention, and qualitative data used to explain the process of the intervention. In this study, mixed methods research was particularly beneficial. Qualitative data from interviews and lesson observations provided context and depth to the quantitative findings obtained from learners' performance.

There are various mixed methods designs that include (a) explanatory sequential, (b) convergent parallel, (c) embedded and (d) multiphase method (DeCuir-Gunby & Schutz, 2017; Creswell & Plano-Clark, 2018).

However, this study focused on the Multiphase method as depicted in the chart below:

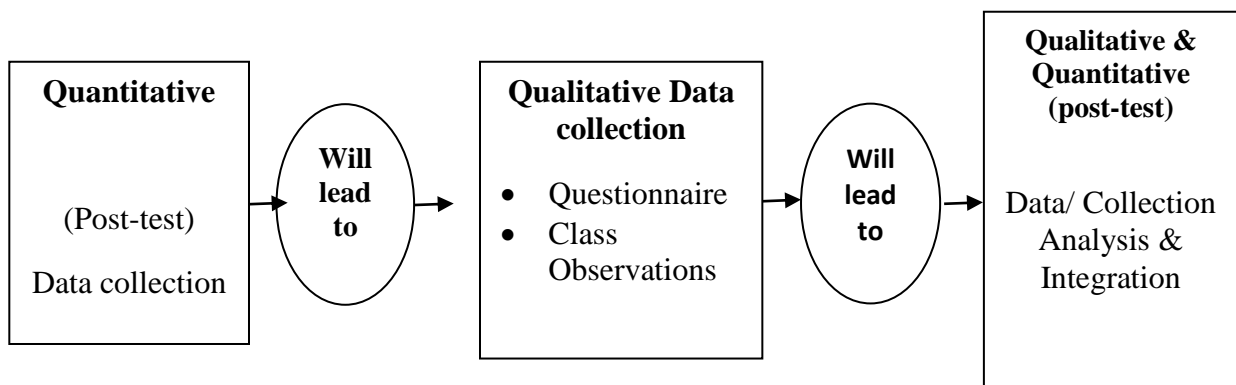


Figure 3: Flow chat of phases in a multiphase design

4.4 Research Design

To investigate the impact of formal teacher competence on learner reading achievement in the multilingual contexts of Livingstone District in Zambia, a convergent parallel design was

employed. This approach integrates both quantitative and qualitative methods, leveraging their combined strengths to offer a comprehensive understanding of the research problem.

4.4.1 Relevance of the convergent parallel design

The convergent parallel design combines the qualitative methods and quantitative methods better. The study design involves the process of collecting qualitative data separately and also quantitative data. The data is presented as it is collected, separately and the convergent is in the discussion chapter. This design has the strength through robust analysis by combining numerical data that quantifies relationships with qualitative data that provides context and depth. Creswell and Plano Clark (2018) argue that this comprehensive insight is a significant advantage of mixed-methods research. Moreover, qualitative data is essential for understanding the unique challenges and strategies involved in multilingual education, which quantitative data alone cannot capture (Teddlie & Tashakkori, 2009).

The use of both quantitative and qualitative data enhances the validity of the findings through triangulation, ensuring that the results are not biased by a single method (Johnson, Onwuegbuzie, & Turner, 2007). This methodological triangulation provides a more reliable and nuanced understanding of the research problem. Furthermore, findings from a mixed-methods study can offer actionable insights for policymakers and educators. Such insights can help design targeted interventions to improve teacher competence and student reading outcomes in multilingual contexts (Ivankova, Creswell, & Stick, 2006). Employing a convergent parallel design allowed the researcher to capitalize on the strengths of both quantitative and qualitative approaches, providing a holistic understanding of how formal teacher competence affects learner reading achievement in the multilingual contexts.

4.4.2 Quantitative Research

Quantitative research is a systematic investigation that primarily focuses on quantifying relationships, behaviours, or phenomena. It involves the collection and analysis of numerical data to identify patterns, test hypotheses, and make predictions (Babbie, 2020). Quantitative research is characterised by its use of structured tools such as surveys, experiments, and statistical analysis. It aims for objectivity and reproducibility, often involving large sample sizes to ensure generalizability of results (Creswell, 2014).

In a study on Formal Teacher Competence and its Effect on Learner Reading Achievement in Multilingual Learning Contexts, quantitative methods were essential for addressing specific research questions and establishing measurable outcomes. Research question one applied the quantitative methods:

Research question 1: *What is the effect of teacher professional qualifications on learners' reading achievement in multilingual learning contexts of Livingstone District?*

Quantitative methods were employed to collect statistical data on teacher professional qualification and its effect on learners' reading achievement of Grade One learners. By assessing learners' reading achievement alongside teachers' professional qualifications, the study effectively quantified the effect of teacher professional qualification on learner performance. Standardised tests were utilised to evaluate learner achievement numerically, while statistical analyses, including calculations of means, standard deviations, and effect sizes using Cohen's d formula, were conducted. These analyses provided insights into the causative relationship between teacher professional qualifications and learner reading achievement.

4.4.3 Qualitative Research

Qualitative research is an exploratory approach used to gain an understanding of underlying reasons, opinions, and motivations. It provides insights into the problem and helps to develop ideas or hypotheses for potential quantitative research. It involves collecting non-numerical data such as text, video, or audio (Creswell & Poth, 2018). This type of research is characterized by its emphasis on natural settings, a focus on the meaning that participants bring to a phenomenon, and the use of open-ended questions. Data is often collected through methods like interviews, focus groups, and participant observation (Denzin & Lincoln, 2018).

In the study on "Formal Teacher Competence and its Effect on Learner Reading Achievement in Multilingual Learning Contexts of Livingstone District in Zambia," the qualitative research component aimed to explore and understand the deeper factors influencing teacher competence and learner reading achievement. The specific aspects addressed by the qualitative part were research question three and four.

Research Question 2: *How do professional qualifications influence the pedagogical content knowledge of teachers in primary schools of Livingstone District?*

The qualitative research addressed this question by engaging teachers through written questionnaires designed to broadly assess their content and pedagogical knowledge, particularly in the context of the Primary Literacy Program and literacy instruction. Recognising that the questionnaire alone could not provide a comprehensive understanding of the teachers' knowledge, classroom observations were conducted to further evaluate their expertise in literacy instruction. The data collected from the questionnaires and classroom observations were then analysed to draw conclusions about the teachers' pedagogical content knowledge, which was subsequently compared to their professional qualifications.

Research Question 3: *What challenges do teachers face in teaching learners from multilingual learning contexts in primary schools of Livingstone District?*

The qualitative aspect addressed this question by conducting in-depth interviews and lesson observations with Grade One teachers. Through interviews, teachers were able to articulate the challenges they face. Lesson observations provided a practical lens to assess how these challenges manifest in classroom settings. These insights enriched the understanding of how these challenges directly affect both teacher competence and the reading achievement of learners.

Research Question 4: *What strategies can enhance teacher competence in multilingual learning contexts in the primary schools of Livingstone district?*

The qualitative research also addressed this question by allowing teachers to propose potential solutions during interviews. By utilising qualitative research methods, the study was able to provide insights into the complex dynamics of teacher competence in multilingual classrooms and propose actionable strategies based on real classroom experiences.

4.5 Study Population

The study population is a discernible group of elements significant to the researcher and relevant to the research question, representing the larger cohort to which the researcher aims to extend the study's findings, encompassing all individuals, events, or objects of interest (Sekaran, 2000; Hair, Bush, & Ortinau, 2003; Mertler, 2019). In the context of this study, the population comprised grade one learners and their teachers in all primary schools in

Livingstone District in Zambia. This population was appropriate for the study because it consisted of the specific group of teachers and learners with diverse multilingual backgrounds.

4.6 Sample Size

Mertler (2019) argue that a sample is a subset of a population selected to represent the accessible population in a study, enabling the results to be generalized to a broader group. In this study, three primary schools in Livingstone town were purposively identified for initial consideration. From these, one school was selected based on specific characteristics designed to align with the study's objectives. The sample included 3 teachers and 120 learners which made a total sample of 123 participants.

4.7 Sampling techniques

To ensure suitability, the chosen school needed to have three streams of Grade 1 learners, each handled by a different teacher of the same gender. Furthermore, the teachers' qualifications were a critical factor in the selection process. The first teacher was required to hold both a diploma and a primary degree; the second teacher needed to possess only a primary diploma; and the third teacher had to have a primary diploma and a degree in any field. This sample was significant as it included teachers with varying qualifications, allowing for an analysis of how differences in educational attainment influence teaching competences. After thorough consideration, only one school met these specific criteria. Consequently, this school was selected using the maximum variation sampling technique (Nyimbili & Nyimbili, 2024).

Within the selected school, all three Grade 1 classes were included in the sample. This sampling approach was strategically chosen to control for potential confounding variables, such as learners' socio-economic backgrounds, school culture, leadership styles, and the availability of teaching and learning materials. Additionally, it accounted for the influence of teacher qualifications on learner achievement. Coincidentally, all the sampled participants at the selected school were female. The characteristics of the sampled teachers are described below:

Table 1: characteristics of the sampled teachers

Teacher Identity	Sex	Initial Qualification	Highest Qualification
X	F	Primary Diploma	Bachelors in Primary Education
Y	F	Primary Diploma	Primary Diploma
Z	F	Primary Diploma	Bachelors in English language / History Secondary

The description of the three classes is as given below:

Table 2: class description

Class Identity	Assigned Teacher	Sex	Number of Sampled Learners
A	X	F	40
B	Y	F	40
C	Z	F	40
TOTAL	3	3	120

The sample population for the study consisted of 123 respondents: 120 pupils and 3 teachers. Grade 1A was taught by Teacher X, whose highest qualification was a Bachelor in Primary Education. Teacher Y, responsible for Grade 1B, held a Diploma in Primary Education, while Grade 1C was handled by Teacher Z, whose highest qualification was a Bachelor in secondary Education -English Language and History. All three classes and their respective teachers were included in the study to ensure a comprehensive approach to data collection. This sampling method allowed for a more holistic understanding of literacy education practices and outcomes for Grade 1 learners, facilitating the generalisation of the findings to similar educational settings. This, in turn, provided valuable insights into the factors influencing early literacy achievement in multilingual learning contexts.

4.8 Methods of Data Collection and Instruments

4.8.1 Structured Literacy Test

To assess the initial literacy competence of learners, a pretest was administered across all three classes in January 2024. This pre-test was essential for establishing the baseline literacy skills of the learners in the sampled classes. It evaluated five key literacy competencies: *phonemic awareness, phonics, fluency, vocabulary, and comprehension.*

Following the pretest, the sampled learners underwent literacy instruction for eleven months as part of the treatment. A posttest was then conducted in November 2024 to evaluate the impact of this instruction. The posttest assessed the same literacy competences as the pretest to ensure comparability of results. To analyse the data, the paired samples t-test also known as the dependent t-test was employed. This statistical test is used to compare measurements from the same group at two different points in time, such as before and after an intervention. It determines whether the average difference between the two sets of measurements is significantly different from zero. The paired samples t-test is particularly appropriate for situations where the same participants are involved in both conditions, as it accounts for the fact that the observations are paired within individuals rather than being independent.

The literacy achievement assessments measured pupils' performance against the competences taught by their respective teachers. These assessments included various variables related to reading abilities, such as phonemic awareness, knowledge of phonemes, syllables, fluency, vocabulary, and comprehension of simple sentences and short passages. These variables were aligned with the Chitonga weekly schedule from terms one to three of the National Literacy Framework (NLF) of 2013. The NLF incorporates a standardised and approved sound system for teaching Chitonga in the Southern Province of Zambia.

One significant advantage of these assessments is their ability to provide a high degree of comparability between pretest and post test results, thereby ensuring that any observed changes in literacy competencies can be attributed to the literacy instruction provided.

To control other factors that might influence the results, all assessments were conducted under similar conditions, and external variables such as the effect of teacher qualification, instructional time, and classroom environment were kept consistent throughout the study. The school environment also the same because all the three classes were from the same school. Further, the learner characteristics and home environment were the same because learners came from the same residential areas. This control was important for ensuring that the changes observed in literacy competences were genuinely due to the literacy instruction and no other extraneous factors. The structured literacy test was instrumental in addressing research questions 1.

4.8.2 Teacher's Questionnaire

A questionnaire serves as a widely accepted tool for gathering information from various respondents, including teachers. It is highly regarded for its reliability and efficiency in data collection, as it enables swift completion and yields standardized responses that are readily quantifiable and analysable (Greenfield, 2002; Silverman, 2004; Bell, 2005).

4.8.3 Design and Purpose of the Questionnaire

This particular questionnaire was designed to ascertain the pedagogical content knowledge of teachers. The purpose was to gather comprehensive data that would allow for an analysis of the teachers' pedagogical content knowledge. The questionnaire included open-ended questions. It was developed to gather data related to their qualifications, and the trainings they had undertaken in literacy. These aspects were mirrored to the content and pedagogical knowledge, making the questionnaire highly relevant for its objective.

The relevance of the questionnaire for the study's objective lay in its ability to collect detailed data about the teachers' pedagogical content knowledge. This data was crucial for understanding how these factors influenced their pedagogical content knowledge. By focusing on these elements, the questionnaire provided valuable insights into the teachers' competence in teaching reading skills in multilingual environments. This directly addressed the research questions 2, 3 and 4 regarding their content and pedagogical proficiency in teaching reading, challenges the teachers faced during instruction and their proposals to enhance their competences in handling learners from the multilingual learning contexts.

4.8.4 Observation Instrument

Classroom observations were conducted to help compare teacher competences with their content and pedagogical knowledge in practice. The observation tool had three major aspects: planning, implementation, and general observations. Using a rubric or structured lesson observation sheet helped to standardise the data collection process and ensured that observations were consistent across different teachers and classrooms. By comparing teachers' classroom practices to selected variables, such as pedagogical content knowledge, the researcher gained a better understanding of how teachers were applying their knowledge and skills in the classroom. The observation sheet helped answer research question 2 and 3 the pedagogical knowledge of teachers and the challenges they faced in teaching learners in settings where multiple languages were used.

4.9 Data Collection Procedure

Firstly, clearance was obtained from UNZA. Then, scheduled appointments were made with the target respondents. Subsequently, explicit consent was obtained by having them sign consent forms, signifying their willingness to participate in the research.

The data collection process unfolded in several stages. In January 2024, the first phase was initiated by researcher who conducted a pretest to assess the initial reading levels of the pupils. Simultaneously, a questionnaire was administered to gauge the content knowledge of teachers. Later in the year, specifically in the middle of 2024, focus shifted to gathering data pertaining to the pedagogical knowledge of teachers in teaching literacy. Before the appointments, permission was obtained from administrators at different levels. Additionally, a literacy lesson observation sheet was employed during this phase to collect relevant data.

Finally, in November 2024, literacy posttest was administered by the researcher as part of the research process. This was done with the aim of comparing the results of the posttest to those of the pretest to determine if there were any significant differences in learner achievement.

4.10 Methods of Data Analysis

Research Question 1: What is the effect of teacher professional qualifications on learners' reading achievement in multilingual learning contexts of Livingstone District?

In this study, inferential statistics were employed to analyse the effect of teacher qualification on learner reading achievement, based on pretest and post test results. The Statistical Package for Social Sciences (SPSS), version 27, was utilised for data analysis. The data analysis procedure was structured as follows:

1. **Descriptive Statistics:** The researchers calculated the mean and standard deviation of learner reading achievement scores to provide a comprehensive summary of the data distribution against the qualification of teachers.
2. **Size Effect:** To provide a more comprehensive understanding of the results obtained from the mean and standard deviation, the effect size was calculated for each competence across all three classes. The calculation of the effect size helps to determine the magnitude of the difference between groups in a standardised way. Cohen's d formula was employed for this purpose. The effect size is obtained by

calculating the difference of the means and dividing the quotient by the standard deviation.

3. To assess the relationship between teacher qualification and learner reading achievement, the study employed a one-way analysis of variance (ANOVA). This analysis aimed at determining whether there was a significant difference in the overall learner performance based on teacher qualification. The following assumptions were taken into consideration for conducting the one-way analysis of variance (ANOVA):

a) Assumption 1: The dependent variable was measured at the ratio level (*i.e.*, *continuous*).

b) Assumption 2: The independent variable consisted of three categorical, independent groups (*Bachelors in primary Education, Primary diploma and Bachelors in English & History- Secondary*)

c) Assumption 3: There was independence of observations, which means that there is no relationship between the observations in each group or between the groups themselves. There were different participants in each group with no participant being in more than one group.

d) Assumption 4: There were no significant outliers.

e) Assumption 5: The dependent variable was approximately normally distributed for each category of the independent variable. This was done using the Shapiro-Wilk test of normality.

f) Assumption 6: There was homogeneity of variances. This was tested in SPSS Statistics using Levene's test for homogeneity of variances.

Table 3: Test of Normality

Table 3 below shows the test of normality and table 4 shows the test Homogeneity

Test of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Overall performance	.118	120	.168	.977	120	.583
a. Lilliefors Significance Correction						

From the table on Test of Normality above, it is evident that the dependent variable was approximately normally distributed ($p=0.583$). Hence, it was appropriate to conduct the ANOVA. The plot below provides the visual distribution of data based on the test of normality .

Figure 4: Test of Normality

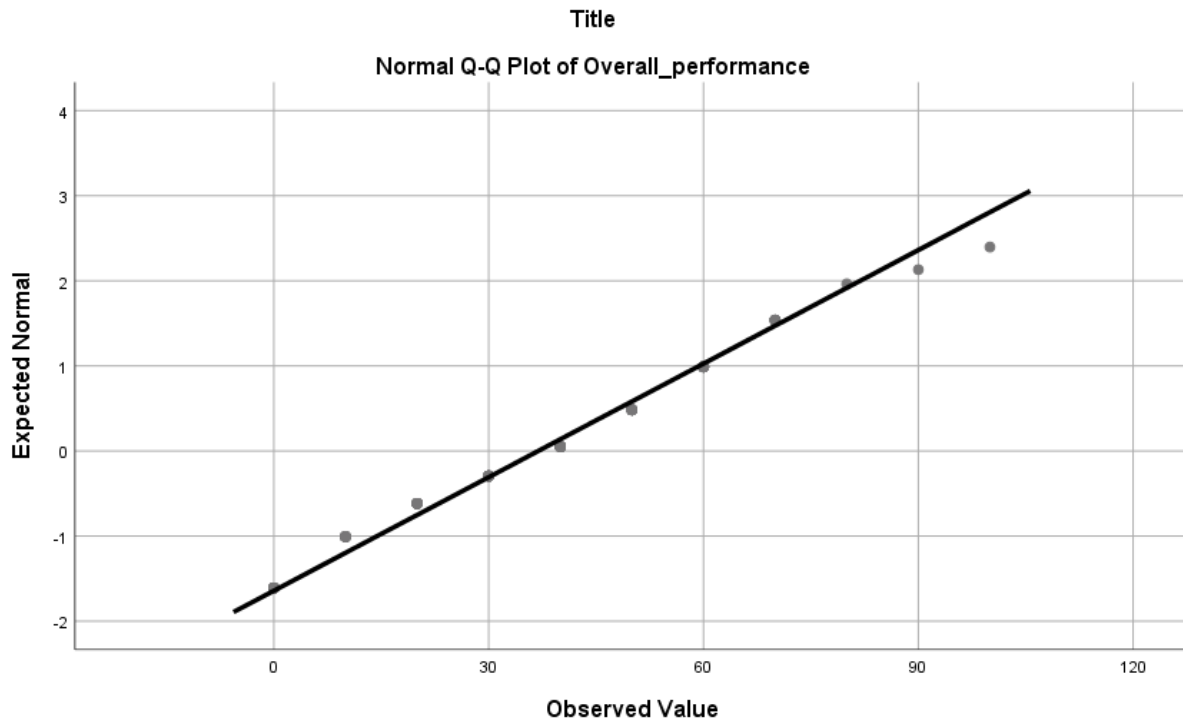


Table 4: Test of Homogeneity of Variances

Test of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Overall performance	Based on Mean	.639	2	117	.530
	Based on Median	.284	2	117	.753
	Based on Median and with adjusted df	.284	2	111.894	.753
	Based on trimmed mean	.559	2	117	.573

The table above presents the output following a test of homogeneity of variances . The p-value for the Levene test is greater than .05, therefore it can be concluded that the variances

were not significantly different from each other. In other words, the homogeneity assumption of the variance was met.

Research Question 2: *How do professional qualifications influence the pedagogical content knowledge of teachers in primary schools of Livingstone District?*

An interview guide was employed to evaluate the pedagogical content knowledge of teachers. The data analysis process included:

a) **Thematic Analysis:** Qualitative data were analysed to assess teachers' pedagogical content knowledge, particularly in the context of PLP and literacy instruction. The interview guide also highlighted common challenges faced by teachers working in multilingual learning contexts. This analysis involved systematic coding and theme development to categorise the issues reported by the teachers.

Research Question 3: *What challenges do teachers face in teaching learners from multilingual learning contexts in primary schools of Livingstone District?*

Focus group interviews with teachers in multilingual classrooms were conducted to explore the challenges they face. The data analysis procedure included:

1. **Thematic Analysis:** Qualitative data were analysed to identify common challenges faced by teachers. This involved coding and theme development to systematically categorise the issues reported by teachers.

Research Question 4: *What strategies can enhance teacher competence in multilingual learning contexts in the primary schools of Livingstone district?*

To propose effective strategies for enhancing teacher competence in multilingual learning contexts, comprehensive interviews were conducted to gather insights from teachers. The data analysis process involved:

1. **Thematic Analysis:** The research findings were analysed and synthesized to identify effective strategies for improving teacher competence in multilingual contexts. Teachers provided suggestions on the support they felt was necessary to help them develop the required competences for teaching in multilingual learning environments.

4.11 Trustworthiness and Reliability of the Instruments

In qualitative research, trustworthiness is essential for validating findings by ensuring they are credible, dependable, confirmable, reliable, authentic, and transferable (Creswell & Poth, 2018). In a study, researchers must define the protocols and procedures required for it to be deemed valuable by readers. These essential criteria include credibility, dependability, reliability, authenticity and transferability.

4.11.1 Credibility

Credibility pertains to the level of confidence in the accuracy and reliability of research findings. Researchers strengthen credibility through extended engagement, triangulation, and member checking (Shenton, 2021). Triangulation, which involves utilising multiple data sources or research methods, minimizes bias and integrates various perspectives (Lincoln & Guba, 2018). The data for this study was collected over a period of one year and analysed over a period of two months. The data was collected under strict measure to ensure credibility.

4.11.2 Dependability

Dependability pertains to the consistency and stability of research findings over time. To ensure dependability, researchers should document methodological decisions and maintain an audit trail for transparency (Korstjens & Moser, 2018). Furthermore, conducting external audits, in which an independent researcher evaluates the research process, enhances dependability (Nowell et al., 2017). Dependability in this study was ensured through thorough documentation of all study activities and decisions. This included comprehensive notes detailing each phase, from selecting interviewees and scheduling interviews to determining observation criteria and recording observations. The process involved continuous monitoring of the teaching and learning dynamics across three distinct classes. This approach not only facilitated the reliability of data collection but also provided a robust framework for maintaining consistency and accuracy throughout the research process.

4.11.3 Confirmability

Confirmability ensures that research findings genuinely represent participants' experiences rather than being influenced by researcher bias. This is established through reflexivity, where researchers critically examine their own assumptions and potential impact on the study (Smith & McGannon, 2018). Additionally, maintaining a comprehensive audit trail enhances confirmability by enabling others to assess the study's logical consistency (Creswell &

Creswell, 2023). In this study, the researcher observed teachers during literacy instruction to validate their pedagogical content knowledge. Confirmability was ensured by adhering to recommended PLP (Primary Literacy Programme) approaches and utilizing standardized teaching and learning materials to support literacy instruction. Furthermore, data collection methods such as standardised tests, interviews, and classroom observations reinforced the reliability of the findings.

4.11.4 Reliability

Although reliability is commonly associated with quantitative research, it is also relevant in qualitative studies, ensuring consistency in data collection and analysis (Elo et al., 2021). Employing systematic coding techniques and conducting inter-coder reliability checks enhance consistency across researchers (Flick, 2018). In this study, the observation tool and interview guide were developed collaboratively by college lecturers and primary school teachers. Prior to implementation, the instruments underwent a pilot study to assess their validity and reliability. The pilot phase focused on evaluating issues related to phraseology, clarity, content validity, and face validity. Necessary modifications were made based on the findings to enhance the instrument's effectiveness.

4.11.5 Authenticity

Authenticity in qualitative research signifies the genuine and accurate representation of participants' perspectives, ensuring that their voices, emotions, and lived experiences are faithfully captured (Guba & Lincoln, 2018). It encompasses fairness, emotional resonance, and meaningful engagement, fostering a deep connection between the researcher and the participants (Tracy, 2020). In this study, authenticity was upheld through multiple strategies, including in-depth classroom observations, the use of verbatim transcriptions to preserve participants' exact expressions, and obtaining informed consent to ensure ethical research practices. These measures enhanced the credibility and trustworthiness of the findings, providing a clear understanding of participants' realities.

4.11.6 Transferability

Transferability refers to the extent to which research findings can be applied to other contexts. While qualitative research does not seek broad generalizability, it provides rich, detailed descriptions of the study context, enabling others to determine the applicability of the findings to their own settings (Korstjens & Moser, 2018). Furthermore, offering

comprehensive background information about participants and research environments enhances transferability (Creswell & Poth, 2018). In this study, the teachers who participated were specifically involved in teaching Grade One learners. The insights gained from their experiences are valuable not only to educators but also to the broader community, as they offer practical guidance on effective approaches to literacy instruction in multilingual classrooms. By highlighting the contextual factors influencing literacy teaching, this study contributes to a deeper understanding of how educators can adapt instructional strategies to support early grade learners in diverse linguistic settings.

4.11.7 Reliability and Validity of the Literacy Test

In this study, the pretest and posttest test instrument for pupils was tested for its reliability using a trait known as repeatability (test-retest reliability). Test-retest reliability is a measure of reliability obtained by administering the same test twice over a period of time to a group of individuals. The scores for the two tests (interval of one week) were correlated in order to evaluate the test for stability (reliability).

The based procedure was as follows:

- i. Administration of test*
- ii. Retest (after one week)*
- iii. Calculation of the correlation (between results of initial test and retest- mean)*
- iv. Results obtained correlated*

The result obtained after correlating the test results was at 0.7 indicating that the instrument was good for the research purpose. For validation, the research instrument was generated from the National Literacy Framework content, which was an approved policy document in use among grade one learners. The instrument was also given to literacy experts and the supervisor for face and content validation. To validate the test, validity questionnaires were used, and a pilot study was undertaken. A pilot study was a smaller account of the actual research (Gay et al., 2009). The pilot study helped the researcher to have foreknowledge of what was likely to occur during the administration of the questionnaire.

4.11.8 Reliability Validity of the Teachers Interview Guide

Content validation of the teachers' Interview Guide involved ensuring that the questions align with the target research objective. Each question was carefully designed to address a specific aspect of the topic under investigation, ensuring that the interview guide remained focused and relevant. To achieve this, the guide underwent a thorough review by subject matter

experts, such as experienced educators and curriculum developers. The instrument was also piloted to ensure the validity of the interview guide. The purpose of this testing phase was to identify any unclear or ambiguous questions and gather feedback on their effectiveness. Based on the insights gained during pilot testing, the questions were refined and adjusted to improve clarity and relevance.

4.11.9 Reliability of the Observation Guide

Evaluating and ascertaining the dependability and authenticity of a lesson observation guide was imperative to guarantee its precise and uniform evaluation of teaching and learning quality. It is of utmost importance to confirm that diverse observers consistently rate lessons to maintain the reliability of such tools, as emphasised by Pianta in 2012. In this study, the lesson observation guide was tested for its reliability using the Inter-Rater Reliability to measure the degree of consistency and consensus among observers. In terms of valid, the instrument was validated using content validity. Content validity pertains to the extent to which an assessment tool thoroughly encompasses all pertinent facets of teaching. An effectively crafted lesson observation instrument should harmonize with instructional goals and benchmarks, as pointed out by Kane in 2006.

4.12 Ethical Considerations

In conducting this research, ethical considerations were paramount, alongside maintaining reliability and dependability of research outcomes. Loannidis (2014) emphasises the importance of transparency and stringent methodology in research, which guided the approach throughout this investigation.

4.12.1 Ethical Approval Process

The study adhered to a rigorous approval process, ensuring alignment with ethical standards and acquiring necessary permissions. Initially, it received approval from the University of Zambia's Humanities and Social Sciences Ethical Committee. Subsequently, an introductory letter from the Assistant Dean of Postgraduate Studies at the School of Education further validated the study's credibility. Moreover, the necessary permissions for fieldwork were diligently pursued, including written authorization from the District Education Board Secretary of Livingstone District and specific permissions to conduct research within the selected schools. Data collection commenced only after obtaining approvals from all relevant authorities, demonstrating a commitment to conducting the study responsibly and ethically.

4.12.2 Informed Consent

Informed consent is a critical ethical consideration, indicating that individuals participate in the research process with full awareness, voluntary choice, comprehension, and a clear expression of willingness. To ensure this consent, participants were provided with consent forms, which they signed to confirm their agreement to be involved in the research process.

4.12.3 Anonymity

In accordance with Mugenda's definition (2011), anonymity in this study meant safeguarding the secrecy of respondents' ethnic or cultural backgrounds, refraining from disclosing their names, and avoiding divulging any sensitive information about them. Respondents received assurance that their identities and provided information would be safeguarded and held in strict confidence before participating in the study.

4.12.4 Confidentiality

To ensure utmost confidentiality, all responses concerning individual characteristics were used only for statistical analysis, with no connection to participants' names, addresses, or telephone numbers. Personal identifiers were excluded from any research instrument or statistical report, guaranteeing both anonymity and confidentiality for all participants.

4.12.5 Risks

Participants were made aware of any potential risks involved in the study, which were minimal and mostly related to the possible emotional discomfort of answering certain literacy questions and undergoing classroom observations. They were reassured that they could skip any question they found uncomfortable, and that their participation would not result in any physical, psychological, or social harm.

4.12.6 Beneficence

The principle of beneficence was maintained by ensuring that participants gained from the study, either directly or indirectly. Although no direct financial incentives were offered, the study aimed to provide valuable insights that could enhance literacy instruction in multilingual learning contexts. Through their participation, respondents contributed to shaping recommendations that could positively impact formal teacher competence and, in turn, improve learner reading achievement.

4.12.7 Withdrawal

Participants had the right to withdraw from the study at any time without any penalties or negative consequences. They were made aware that their participation was completely voluntary, and they could stop their involvement without needing to give any reason.

4.12.8 Privacy

Privacy was upheld by securing all personal information provided by participants, ensuring it remained inaccessible to unauthorized individuals. Interviews and observations were conducted in a manner that safeguarded participants' identities.

4.12.9 Access to Study Results

Results were only accessible upon completion of the study. They were informed that summarized findings would be available in the form of a report. This ensured transparency and allowed participants to see how their contributions helped shape the study's conclusions.

4.13 Limitation of the study

The study might not have fully accounted for the extensive cultural and linguistic diversity within the Livingstone District. It was noted that while the study focused on multilingual learning contexts, there could be significant variations in how different languages and cultural backgrounds impacted reading achievement. This diversity led to challenges in standardising assessments and interventions, potentially influencing the generalisability of the findings to other multilingual regions or even different parts of Zambia. Therefore, it was concluded that the results might primarily reflect the unique dynamics of the Livingstone District rather than providing a comprehensive understanding applicable to all multilingual learning contexts in Zambia.

4.14 Chapter Summary

This chapter comprehensively explored the key components of the study, including the research paradigm, methodology, research design, population, and sample, sampling procedure, instruments of data collection, data collection procedure, data analysis, trustworthiness, and ethical considerations. The following chapter will delve into the study's findings.

CHAPTER FIVE

PRESENTATION OF FINDINGS

5.1 Overview

The previous chapter detailed the methodology employed to collect data for this study. This chapter focuses on presenting the findings derived from the data collected through end-of-year assessments of learners in literacy, classroom observations, and interviews conducted with teachers in 2024. The findings are structured and presented in relation to the following research questions:

- i. What is the effect of teacher professional qualifications on learners' reading achievement in multilingual learning contexts of Livingstone District?
- ii. How do professional qualifications influence the pedagogical content knowledge of teachers in primary schools of Livingstone District?
- iii. What challenges do teachers face in teaching learners from multilingual learning contexts in primary schools of Livingstone District?
- iv. What strategies can enhance teacher competence in multilingual learning contexts in the primary schools of Livingstone district?

The research questions were addressed using various data collection instruments. The findings are presented through tables, figures, descriptions, and themes, corresponding to the qualitative and quantitative research questions in this study. The next section outlines the findings related to the first research question.

5.2 What is the effect of teacher professional qualifications on learners' reading achievement in multilingual learning contexts of Livingstone District?

The findings related to Research Question 1 were obtained using a quantitative approach. This research question sought to determine whether teacher professional qualifications affected learners' reading achievement in multilingual learning contexts such as those in Livingstone District. Data collection involved literacy assessments designed to measure learners' achievement across five core literacy skills: phonemic awareness, phonics, fluency, vocabulary, and comprehension. Three teachers participated in the study, each assigned to a different class. Teacher X, possessing both an initial Primary Diploma and a Bachelor's

Degree in Primary Education, was responsible for class 1B. Teacher Y, who held only a Primary Diploma, taught class 1A. Teacher Z, who held a Primary Diploma and a Bachelor’s Degree in English Language for Secondary Education, taught class 1C.

To assess the learners' competence before instruction (treatment), an initial assessment (pre-test) was conducted among 120 learners, with 40 learners in each class. Following the instructional period, a posttest assessment using the same instrument was administered to evaluate the effect of teacher qualifications on the reading achievement of learners over the year.

The comparative analysis of pretest and posttest results provided a solid foundation for evaluating the literacy achievement of each learner across the targeted skill areas. By associating learners’ achievement with the qualifications of the three teachers, the study offered insights on whether teacher professional qualifications affect reading achievement of learners in multilingual learning contexts. The following findings are presented according to the different literacy components and finally, the average performance for each class is presented.

5.2.1 Learners Performance in Phonemic Awareness

The Phonemic Awareness test evaluated learners' ability to identify and manipulate the initial sounds of given words and distinguish between orally presented words. To determine the effect of teacher qualifications on reading achievement of learners, specifically in phonemic awareness, a paired t-test was conducted across the three classes. The results of the paired sample statistics for this skill are presented as follows:

Paired Samples Statistics

Table 5: Paired Samples on Phonemic Awareness

Teacher	Class	Test	Mean	N	Std. Deviation	Std. Error Mean
X	A	Pretest	16.00	40	14.46	2.29
		Posttest	43.25	40	20.05	3.17
Y	B	Pretest	21.50	40	25.68	4.06
		Posttest	33.25	40	23.68	3.74
Z	C	Pretest	19.75	40	21.90	3.46
		Posttest	34.25	40	22.75	3.60

Key:

Teacher X: Bachelors in Primary Education

Teacher Y: Primary Diploma

Teacher Z: Bachelors in English Language /History

The paired samples statistics summarise the pretest and post test scores for three classes: Class 1A, Class 1B, and Class 1C, each comprising 40 participants. In Class 1A, taught by teacher X, the mean pretest score was 16.00, with a standard deviation of 14.46 and a standard error mean of 2.29. Following the post test, the mean score increased to 43.25, with a standard deviation of 20.05 and a standard error mean of 3.17. Class 1B taught by teacher Y had a pretest mean score of 21.50, with a standard deviation of 25.68 and a standard error mean of 4.06. After the post test, the mean score rose to 33.25, with a standard deviation of 23.68 and a standard error mean of 3.74. Similarly, in Class 1C taught by teacher Z, the mean pretest score was 19.75, accompanied by a standard deviation of 21.90 and a standard error mean of 3.46. The post test mean score for this class increased to 34.25, with a standard deviation of 22.75 and a standard error mean of 3.60.

The summary of the mean and effect size difference of learners in phonemic awareness for the three classes is presented below:

Table 6: Paired Sample Test: Phonemic Awareness

		Paired Differences					T	Df	Sig. (2-tailed)	Size Effect
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Teacher X	Pretest - Post test	-27.25	21.12	3.34	-0.0047	-20.50	-8.16	39	0.000	1.29
Teacher Y	Pretest - Post test	-11.75	28.45	4.50	-20.85	-2.65	-2.61	39	0.013	0.41
Teacher Z	Pretest- Post test	-14.5	24.80	3.92	-22.43	-6.57	-3.70	39	0.001	0.58

The paired samples test for the three classes is presented. Class 1 A, by teacher X, had the mean difference between the pretest and post test scores of -27.25, with a standard deviation of 21.12 and a standard error mean of 3.34. The 95% confidence interval of the difference ranged from -20.50 to -8.16. Class B taught by teacher Y had the mean difference between pretest and post test scores was -11.75, accompanied by a standard deviation of 28.45 and a

standard error mean of 4.50. The 95% confidence interval of the difference spanned from -20.85 to -2.65. Similarly, for Class 1C, the mean difference observed between pretest and post test scores was -14.50, with a standard deviation of 24.80 and a standard error mean of 3.92. The 95% confidence interval of the difference extended from -22.43 to -6.57. The test results for all three classes also included respective t-values, degrees of freedom, and significance levels.

Table 7: Presentation of the Size Effect on Phonemic Awareness:

To further understand the effect of teacher qualification on the reading achievement of learner’s particularly phonemic awareness, the Cohen’s d formula was used, and results are presented in the table below:

Class	Teacher	Qualification	Size Effect	Interpretation (Cohen’s Conventions)
A	X	Bachelors in Primary Education	1.29	Large effect
B	Y	Primary Diploma	0.41	Small to medium effect
C	Z	Bachelors in English Language / History	0.58	Medium to large effect

5.2.2. Learners’ Performance in Phonics

The second skill assessed was phonics. Learners were asked to associate written letters with their corresponding sounds. In this assessment learners were given a series of phonics sounds, including both vowels and consonants, derived from the weekly schedules of the literacy framework of 2013. These sounds were presented in a structured order, progressing from simple to more complex sounds, starting with the most common and gradually moving to the less frequent ones. The Paired Samples Statistics results for this skill across the three Classes were as follows:

Paired Samples Statistics

Table 8: Paired Samples on Phonics

Teacher	Class	Test	Mean	N	Std. Deviation	Std. Error Mean
X	A	Pretest	8.30	40	8.73	1.38
		Post test	42.73	40	31.57	4.99
Y	B	Pretest	7.28	40	6.06	0.96
		Post test	42.60	40	27.26	4.31
Z	C	Pretest	9.33	40	6.29	0.99
		Post test	36.68	40	28.05	4.44

Key:**Class A:** Teacher X: Bachelors in Primary Education**Class B:** Teacher Y: Primary Diploma**Class C:** Teacher Z: Bachelors in English Language /History

The paired samples statistics present data for three classes: Class 1 A, Class 1 B, and Class 1 C, comparing their performance in the pretest and post test. Each class comprised 40 participants.

For Class 1 A, taught by teacher X, the mean score in the pretest was 8.30, with a standard deviation of 8.73 and a standard error mean of 1.38. The posttest mean score for this class was 42.73, with a standard deviation of 31.57 and a standard error mean of 4.99. In Class 1 B, taught by teacher Y, the pretest mean score was 7.28, with a standard deviation of 6.06 and a standard error mean of 0.96. The posttest mean score was 42.60, with a standard deviation of 27.26 and a standard error mean of 4.31. For Class 1 C, taught by teacher Z, the pretest mean score was 9.33, with a standard deviation of 6.29 and a standard error mean of 0.99. The posttest mean score was 36.68, with a standard deviation of 28.05 and a standard error mean of 4.44.

The summary of the mean and effect size difference of learners in phonics for the three Classes is presented below:

Table 9: Paired Sample Test: Phonics

		Paired Samples Test							Size Effect	
		Paired Differences					T	Df		Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Class 1A	Pretest - Post test	-34.43	29.75	4.70	-43.91	-24.91	-7.32	39	0.000	1.16
Class 1B	Pretest - Post test	-35.33	25.09	3.97	-43.35	-27.30	-8.91	39	0.000	1.41
Class 1C	Pretest- Post test	-27.35	26.34	4.16	-35.77	-18.93	-6.57	39	0.000	-1.04

A paired samples test was conducted to assess the impact of phonics instruction on learner performance across three Classes: Class 1 A, Class B, and Class 1 C. The data presented in Table 5 showcases the results of a paired sample test conducted on phonics performance across three classes: Class 1A, Class 1B, and Class 1C. For Class 1A, taught by teacher X, the mean

difference between pretest and posttest scores was -34.43, with a standard deviation of 29.75 and a standard error mean of 4.70. The 95% confidence interval for the difference ranged from -43.91 to -24.91. The t-value was -7.32 with 39 degrees of freedom, and the result was statistically significant ($p = 0.000$), indicating a size effect of 1.16. Class 1B, taught by teacher Y exhibited a mean difference of -35.33, with a standard deviation of 25.09 and a standard error mean of 3.97. The confidence interval for the difference ranged from -43.35 to -27.30. The t-value was -8.91 with 39 degrees of freedom, also yielding a statistically significant result ($p = 0.000$) and a size effect of 1.41. Similarly, For Class 1C, taught by teacher Z, the mean difference was slightly lower at -27.35, with a standard deviation of 26.34 and a standard error mean of 4.16. The 95% confidence interval ranged from -35.77 to -18.93. The t-value for this comparison was -6.57, with 39 degrees of freedom, and the result was statistically significant ($p = 0.000$) with a size effect of -1.04.

Table 10: Presentation of the Size Effect on Phonics:

To further understand the effect of teacher professional qualification on the reading achievement of learner's particularly phonics, the Cohen's d formula was used and results are presented in the table below:

Class	Teacher	Qualification	Size Effect	Interpretation (Cohen's Conventions)
1A	X	Bachelors in Primary Education	1.16	Large effect
1B	Y	Primary Diploma	1.41	Large effect
1C	Z	Bachelors in English Language / History	-1.04	Large effect

5.2.3. Learners' Performance in Fluency

Learners were tested for their fluency using the running record matrix. Each learner was given the opportunity to read a prescribed passage of 42 words within one minute. Points were awarded for each word read correctly within the given time. The findings from the three Classes based on these skills were as follows:

Paired Samples Statistics

Table 11: Paired Sample Statistics in Fluency

Teacher	Class	Test	Mean	N	Std. Deviation	Std. Error Mean
X	A	Pretest	0.00	40	0.00	0.00
		Posttest	24.93	40	36.86	5.83
Y	B	Pretest	0.00	40	0.00	0.00
		Posttest	22.00	40	33.40	5.28
Z	C	Pretest	0.00	40	0.00	0.00
		Posttest	18.53	40	29.60	4.68

Key:

Class A: Teacher X: Bachelors in Primary Education

Class B: Teacher Y: Primary Diploma

Class C: Teacher Z: Bachelors in English Language /History

The paired samples statistics present the performance outcomes for three different classes, 1A, 1B, and 1C, in pretests and posttests. Class 1A, the mean score for the pretest was 0.00, with 40 participants, a standard deviation of 0.00, and a standard error mean of 0.00. Following the posttest, the mean score increased to 24.93, with the same number of participants, a standard deviation of 36.86 and a standard error mean of 5.83. Similarly Class 1B showed a pretest mean score of 0.00 with 40 participants, a standard deviation of 0.0000, and a standard error mean of 0.0000. In the posttest, the mean score raised to 22.00, with 40 participants, a standard deviation of 33.40, and a standard error mean of 5.28. For Class 1C, the pretest mean score was also 0.00, with 40 participants, a standard deviation of 0.0000, and a standard error mean of 0.00. In the posttest, the mean score reached 18.53, with 40 participants, a standard deviation of 29.60, and a standard error mean of 4.68.

The summary of the mean and size effect difference of learners in fluency for the three classes is presented below:

Table 12: Summary of the mean and size effect difference of learners in fluency

		Paired Samples Test								Size Effect
		Paired Differences					T	Df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Teacher X	Pretest - Post test	-24.93	36.86	5.83	-36.71	-13.14	-4.28	39	0.000	0.68
Teacher Y	Pretest - Post test	-22.00	33.40	5.28	-32.68	-11.33	-4.17	39	0.000	0.66
Teacher Z	Pretest - Post test	-18.53	29.60	4.68	-27.99	-9.06	-3.96	39	0.000	0.63

The results of the paired samples t-test are presented for three different classes, namely Class 1 A, Class B, and Class 1 C, focusing on the differences between pretest and posttest scores. For Class 1 A, taught by teacher X, the mean difference between the pretest and posttest was -24.93, with a standard deviation of 36.86 and a standard error mean of 5.83. The 95% confidence interval for the difference ranged from -36.71 to -13.14, and the t-value was -4.28 with 39 degrees of freedom. The significance value was 0.000. The effect size for Class 1 B was 0.68. In Class B taught by teacher Y, the mean difference between the pretest and posttest was -22.00, with a standard deviation of 33.40 and a standard error mean of 5.28. The 95% confidence interval for the difference ranged from -32.68 to -11.33, with a t-value of -4.17 and 39 degrees of freedom. The significance value was also 0.000. The effect size for Class A was 0.66. Class 1 C was taught by teacher Z. The mean difference between the pretest and posttest was -18.53, with a standard deviation of 29.60 and a standard error mean of 4.68. The 95% confidence interval for the difference ranged from -27.99 to -9.06, with a t-value of -3.96 and 39 degrees of freedom. The significance value was 0.000. The effect size for Class 1 C was 0.63.

Table 13: Presentation of the size effect on Fluency

Class	Teacher	Qualification	Size Effect	Interpretation (Cohen's Conventions)
1A	X	Bachelors in Primary Education	0.68	Moderate to large effect
1B	Y	Primary Diploma	0.66	Medium to large
1C	Z	Bachelors in English Language / History	0.63	Medium to large effect

5.2.4. Learners' performance in Vocabulary

As part of the assessment on vocabulary, learners were asked to read the provided words aloud. Additionally, they were tasked with using these words to construct meaningful sentences of their choice. The findings from the three classes, based on this skill, were as follows:

Paired Samples Statistics

Table 14: Paired Samples on Vocabulary

Teacher	Class	Test	Mean	N	Std. Deviation	Std. Error Mean
X	A	Pretest	1.25	40	4.63	0.73
		Post test	27.75	40	37.54	5.92
Y	B	Pretest	3.75	40	16.59	2.62
		Post test	18.50	40	29.49	4.66
Z	C	Pretest	1.25	40	4.63	0.73
		Post test	25.75	40	31.94	5.05

Key :

Class A: Teacher X: Bachelors in Primary Education

Class B: Teacher Y: Primary Diploma

Class C: Teacher Z: Bachelors in English Language /History

For Class 1 A taught by teacher X, the mean score for Pretest was 1.25 with a standard deviation of 4.63 and a standard error of 0.73, based on 40 learners. After the intervention, the mean score for Posttest increased to 27.75, with a standard deviation of 37.54 and a standard error of 5.92, again for a sample of 40 learners. In Class 1 B, taught by teacher Y had the mean score for Pretest was 3.75 with a standard deviation of 16.59 and a standard error of 2.62, based on 40 learners. For Pretest 2, the mean score was 18.50, with a standard deviation of 29.49 and a standard error of 4.66, still with a sample size of 40. Lastly, for Class 1 C, the mean score for Pretest was 1.25 with a standard deviation of 4.63 and a

standard error of 0.73, based on 40 learners. Following the intervention, the mean score for Post test was 25.75, with a standard deviation of 31.94 and a standard error of 5.05, based on the same sample size of 40 learners.

The summary of the mean and size effect difference of learners in vocabulary for the three Classes is presented below:

Table 15: Paired Samples Test Results: Vocabulary

		Paired Samples Test					T	Df	Sig. (2-tailed)	Size Effect
		Paired Differences			95% Confidence Interval of the Difference					
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper				
Class 1A	Pretest - Post test	-26.50	36.76	5.81	-38.26	-14.74	-4.56	39	0.000	0.72
Class 1B	Pretest - Post test	-14.75	32.83	5.19	-25.24	-4.25	-2.84	39	0.007	0.45
Class 1C	Pretest - Post test	-24.50	30.90	4.87	-34.35	-14.65	-5.03	39	0.000	0.79

The paired samples test results for the three classes show the following findings:

For Class A, taught by teacher X, the pretest-posttest paired differences yielded a mean of -26.50, with a standard deviation of 36.76 and a standard error mean of 5.81. The 95% confidence interval for the difference ranged from -38.26 to -14.74, and the t-value was -4.56 with 39 degrees of freedom. The p-value of 0.000 was obtained. The effect size of 0.72 was obtained. In Class B, was taught by teacher Y. The mean of the pretest-posttest differences was -14.75, with a standard deviation of 32.83 and a standard error mean of 5.19. The 95% confidence interval for the difference ranged from -25.24 to -4.25. The t-value was -2.84 with 39 degrees of freedom, and the p-value obtained was 0.007. The effect size was moderate at 0.45. Teacher Z Taught Class C, the pretest-posttest differences had a mean of -24.50, a standard deviation of 30.90, and a standard error mean of 4.87. The 95% confidence interval for the difference ranged from -34.35 to -14.65, with a t-value of -5.03 and 39 degrees of freedom. The result was statistically significant with a p-value of 0.000, and the effect size was large at 0.79.

Table 16: Presentation of the Size Effect on Vocabulary

Class	Teacher	Qualification	Size Effect	Interpretation (Cohen's Conventions)
1A	X	Bachelors in Primary Education	0.72	Medium to large effect
1B	Y	Primary Diploma	0.45	Low to medium effect
1C	Z	Bachelors in English Language / History	0.79	Moderate to large effect

5.2.5. Learners' Performance in Comprehension

Under comprehension, learners were assessed on their ability to understand and interpret the meaning of what was read to them. To assess this skill, learners were required to listen attentively as a story was read aloud to them. Subsequently, they answered questions designed to evaluate their listening comprehension. The results from the three classes, based on their performance in listening comprehension, were as follows:

Paired Samples Statistics**Table 17: Paired Samples on Comprehension**

Teacher	Class	Test	Mean	N	Std. Deviation	Std. Error Mean
X	A	Pretest	22.75	40	23.09	3.65
		Post test	88.75	40	19.77	3.13
Y	B	Pretest	24.50	40	29.08	4.60
		Post test	71.50	40	30.51	4.82
Z	C	Pretest	25.00	40	26.60	4.21
		Post test	65.00	40	34.71	5.49

Key:

Class A: Teacher X: Bachelors in Primary Education

Class B: Teacher Y: Primary Diploma

Class C: Teacher Z: Bachelors in English Language /History

In Class 1A, the pretest had a mean score of 22.75, with a standard deviation of 23.09 and a standard error of 3.65. The posttest for Class A showed a mean score of 88.75, with a standard deviation of 19.77 and a standard error of 3.13. In Class 1 B, the pretest 1 had a mean of 24.50, with a standard deviation of 29.08 and a standard error of 4.60. The Postest for class B had a mean score of 71.50, a standard deviation of 30.51, and a standard error of 4.82. Lastly, in class C, the pretest 1 mean score was 25.00, with a standard deviation of

26.60 and a standard error of 4.21. The posttest 2 in Class C had a mean score of 65.00, a standard deviation of 34.71, and a standard error of 5.49.

The summary of the mean difference of learners in comprehension for the three Classes is presented below:

Table 18: Paired Samples Test Results for Comprehension

		Paired Differences					T	Df	Sig. (2-tailed)	Size Effect
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Class 1 A	Pretest - Post test	-66.00	28.08	4.44	-74.98	-57.02	-14.86	39	0.000	2.35
Class 1 B	Pretest - Post test	-47.00	35.46	5.61	-58.34	-35.66	-8.38	39	0.000	1.33
Class 1 C	Pretest - Post test	-40.00	34.42	5.44	-51.01	-28.99	-7.35	39	0.000	1.16

The paired samples test results present comprehension scores across all three classes from the pretest to the post test.

For Class 1A taught by teacher X, the difference between the pretest and posttest scores showed a mean of -66.00, with a standard deviation of 28.08 and a standard error mean of 4.44. The 95% confidence interval for the difference was between -74.98 and -57.02. The t-value was -14.86, with 39 degrees of freedom. The significance value (p-value) was 0.000, indicating a statistically significant difference. In Class B taught by teacher Y, the mean difference between the pretest and posttest scores was -47.00, with a standard deviation of 35.46 and a standard error mean of 5.61. The confidence interval for the difference ranged from -58.34 to -35.66. The t-value was -8.38, with 39 degrees of freedom, and the p-value was also 0.000, confirming a statistically significant difference. Class C was taught by teacher Z The mean difference between the pretest and posttest was -40.00, with a standard deviation of 34.42 and a standard error mean of 5.44. The 95% confidence interval for the difference ranged from -51.01 to -28.99. The t-value for this difference was -7.35, with 39 degrees of freedom, and the p-value was 0.000, indicating that the difference was statistically significant.

Table 19: Presentation of the Size Effect on Comprehension

Class	Teacher	Qualification	Size Effect	Interpretation (Cohen's Conventions)
1A	X	Bachelors in Primary Education	2.35	Very large effect
1B	Y	Primary Diploma	1.33	Large effect
1C	Z	Bachelors in English Language / History	1.16	Large effect

The table below provides a summary of the average scores of learners in relation to their teachers' qualifications, which is the focus of this research. To determine the effect of the teacher on learners' reading achievement, the class, teacher labels, and their qualifications are presented.

Table 20: Average Score of Learners' Performance in Literacy and Language

Class	Teacher	Qualification	Average Pretest mean	Average Posttest mean
1A	X	Bachelors in Primary Education	11.40	45.48
1B	Y	Primary Diploma	9.66	37.57
1C	Z	Bachelors in English Language / History	11.07	36.04

The table below provides a summary of the average effect size on learners' performance in literacy and language. The effect size is interpreted following Cohen's *d* formula conventions.

Table 21: Average Size Effect of Learners' Performance in Literacy and Language

Class	Teacher	Qualification	Average Size Effect	Interpretation (Cohen's Conventions)
1A	X	Bachelors in Primary Education	1.33	Large effect
1B	Y	Primary Diploma	0.85	Medium to large effect
1C	Z	Bachelors in English Language / History	0.84	Medium to large effect

Key: *Cohen's d* formula interpretation (Effect Size)

Range	Interpretation
0.0 - 0.1	Trivial effect
0.2 - 0.4	Small effect
0.5 - 0.7	Medium effect
0.8 - 1.2	Large effect
1.3 - 1.9	Very large effect
2.0 or greater	Extremely large effect

The outcomes reveal notable variations in literacy performance across three classes, each taught by teachers with distinct qualifications.

Class 1A, instructed by Teacher X, who possesses a Bachelor's degree in Primary Education, had a mean pretest score of 11.40 and a mean posttest score of 37.37. The effect size for this class was 1.33, representing a large and meaningful impact of the intervention. Class 1B, led by Teacher Y, who holds a Primary Diploma, recorded a mean pretest score of 9.66 and a mean posttest score of 45.48. The effect size for this class was 0.85, indicating a medium-to-large impact according to Cohen's conventions. Class 1C, taught by Teacher Z, who holds a Bachelor's degree in English Language and History, achieved a mean pretest score of 11.07 and a mean posttest score of 36.04. The effect size for this class was 0.84, signifying a medium-to-large impact.

5.2.6 Hypothesis testing

The following hypothesis was tested in this study :

- i. **Null Hypothesis (H₀):** There is no significant relationship between teacher qualification and learner reading achievement in multilingual learning contexts of Livingstone District.
- ii. **Alternative Hypothesis (H₁):** There is a significant relationship between teacher qualification and learner reading achievement in multilingual learning contexts of Livingstone District.

As a way of testing the hypothesis, the study used the One-Way Analysis of Variance (ANOVA) . This test was conducted to determine whether there was a significance difference in overall learner performance based on teacher qualification. The table below presents detailed descriptives of the test of the hypothesis.

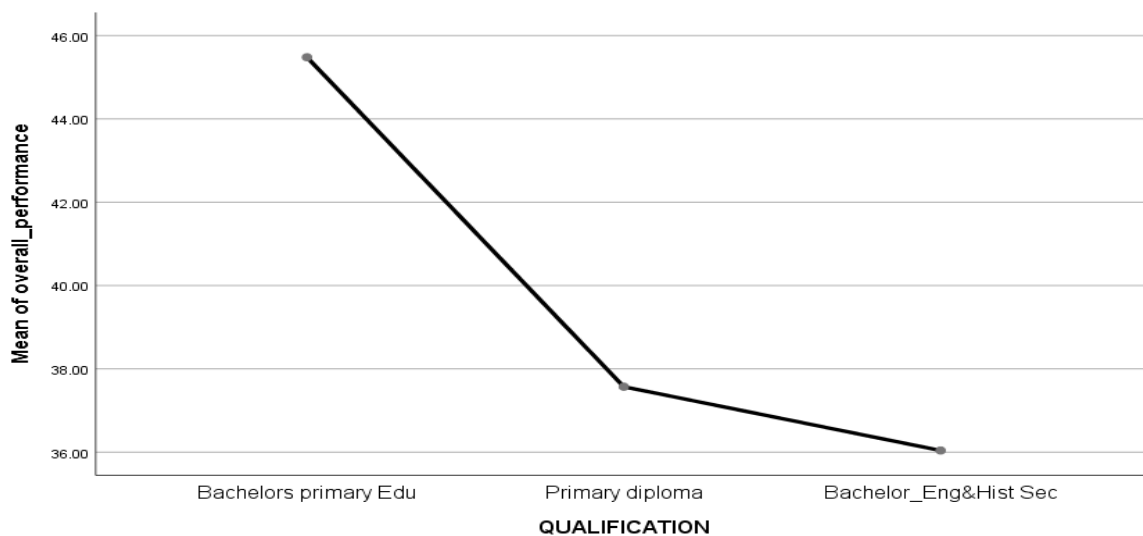
Table 22. Descriptives of Overall Performance

Descriptives									
Overall performance									
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	Between-Component Variance
					Lower Bound	Upper Bound			
1. Bachelors primary Edu	40	45.4800	22.63017	3.57814	38.2425	52.7175	20.00	92.00	
2 .Primary diploma	40	37.5700	20.42967	3.23021	31.0363	44.1037	4.60	86.60	
3. Bachelor_Eng&Hist Sec	40	36.0400	21.95002	3.47060	29.0200	43.0600	.00	81.40	
Total	120	39.6967	21.90398	1.99955	35.7374	43.6560	.00	92.00	
Model	Fixed Effects		21.68947	1.97997	35.7754	43.6179			
	Random Effects			2.92520	27.1105	52.2828			13.90960

The descriptive table above shows that the Bachelors primary Edu group had a higher mean compared to Primary diploma (37.57) and Bachelor Eng&Hist Sec (36.04). This suggest that learners in Bachelors Primary Education group performed better than learners in Primary Diploma and/or Bachelor in English & History Sec groups.

The ANOVA graph below confirms whether the observed differences in the means were statistically significant.

Figure 5: ANOVA Test



To test whether there was a statistically significant difference between the group means, the ANOVA test was conducted and the output is presented using the table below:

Table 23: ANOVA Test

ANOVA					
Overall performance					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2053.635	2	1026.817	12.183	.017
Within Groups	55040.684	117	470.433		
Total	57094.319	119			

The table above shows the output of the ANOVA analysis and whether there was a statistically significant difference between the group means. It can be seen that the significance value was 0.017 (i.e., $p = .017$), which is below 0.05. Therefore, there was a statistically significant difference in the mean overall performance of learners in literacy between the different qualifications of the teachers. The results suggest that there is a statistically significant difference in overall learner performance based on teacher qualification.

The Multiple Comparisons table below contains the results of the Tukey post hoc test used to establish which of the specific groups differed.

Table 24: Multiple Comparisons of Performance

Multiple Comparisons				
Dependent Variable: overall performance				
Tukey HSD				
(I) QUALIFICATION	(J) QUALIFICATION	Mean Difference (I-J)	Std. Error	Sig.
1 Bachelors in primary Education	2 Primary diploma	7.91000	4.84991	.037
	3 Bachelors in Eng & History -secondary	9.44000	4.84991	.030
2 Primary diploma	1 Bachelors in primary Edu	-7.91000	4.84991	.037
	3 Bachelors in English & History -secondary	1.53000	4.84991	.947
3 Bachelors in English & History - Secondary	1 Bachelors in primary Education	-9.44000	4.84991	.030
	2 Primary diploma	-1.53000	4.84991	.947

The results in the table above shows that there is a statistically significant difference in overall learner performance between the group with a teacher who has a Bachelor in Primary Education and the Diploma in Primary Education ($p= 0.037$), as well as the Bachelors in English & History Secondary ($p=0.030$). However, there were no differences between the groups that had a teacher with Diploma in Primary and Bachelors in English & History Secondary ($p=0.947$).

5.3 How do professional qualifications influence the pedagogical content knowledge of teachers in primary schools of Livingstone District?

Qualitative data was collected using structured interviews and a classroom observation with the teachers who were sampled. Data is presented under two themes being content knowledge and pedagogical knowledge while what was observed in Class is presented as observation. The teacher's characteristics are that Class 1 A was manned by teacher X who had a Primary teachers' Diploma and Degree. Class B was manned by teacher Y who had a Primary teachers' Diploma while CLASS 1 C was manned by teacher Z who had a Primary teachers' Diploma and a secondary teachers' Degree in English language and History. This data was relevant for this study because the teachers could not be judged on the basis of being observed only as their reasons for teaching the way they taught literacy was relevant hence this tool was used.

5.3.1. How teachers of different levels of qualifications understood the key content of literacy and language

This section presents finding of the third question which was aimed at establishing how teachers of different levels of qualifications understood the key content of literacy and language. The results are given in table form using the main theme and sub-themes.

Table 25: Theme and sub-themes which emerged

Theme	Sub-themes
How teachers of different qualifications understood the key content of literacy and language .	1.1. Meaning of PLP 1.2. Focus of PLP 1.3. Principles of PLP 1.4. Teachers' Knowledge of pre reading skills 1.5. Key competences of PLP 1.6. Assessment in PLP

1.1. Meaning of PLP

The teachers were asked on the meaning of the letters PLP in the teaching of literacy in the Zambian schools. They revealed that PLP stood for primary literacy program. The following is what they said:

Teacher X said:

When I hear of the term PLP, I always say it means the Primary Literacy Program which we are using as per curriculum guidelines and literacy framework of 2013.

Teacher Y stated that:

PLP means Primary Literacy Program. This is what we are using to guide our teaching of literacy in Zambia

Teacher X added that:

PLP is the primary literacy program.

1.2. Focus of PLP

With regards to the focus of PLP, it was established that the main focus was to impart the skills of reading and writing into the learners in the Zambian schools. The following were the responses:

Participant X

The main focus of PLP is to instill the skills of reading and writing using the local languages in the Zambian children. These languages are the languages which children use when they are playing with friends in homes and school.

Teacher Y added that:

PLP focuses on learners learning in their local language. These local languages are the languages which children use when they are playing in the school community.

Meanwhile, teacher Z stated that:

The prime focus was to impart literacy skills in learners. PLP is designed to use the Zambian languages to teach the planned skills and knowledge to the children in Zambia.

1.3. Principles of PLP

Participants were further asked to state the five principles of the primary literacy programs in Zambia. The findings revealed that the participants did not understand the five principles of PLP in the national literacy framework. The following were the responses:

Participant X mentioned that:

The PLP principles included phonemic awareness, phonics, fluency, vocabulary and comprehension. These are the principles I know which we follow in primary schools when teaching literacy.

Participant Y stated that:

The core principles of PLP included phonemic awareness, phonics, fluency, vocabulary and comprehension. These are the principles which are planned in PLP for us teachers to use when teaching primary school children.

Participant Z also mentioned that:

I know these principles which PLP focuses on in the Zambian curriculum. The principles are phonemic awareness, phonics, fluency, vocabulary and comprehension. Nothing else apart from these.

1.4. Knowledge of Pre Reading Skills

In asking on the knowledge teachers held on what pre reading skills were, it was established that pre reading skills were activities which teachers engaged the learners into so that learners can be prepared for the reading lesson in a literacy Classroom. The following were the responses:

Teacher X stated that:

Pre reading skills are activities that learners do before they start reading. These activities make the teacher prepare the learners for the reading lesson which was to take place.

Teacher Y added that:

These are activities that are done before reading and writing. They include preparing the children for the writing activities which they are to undertake in a Classroom.

Teacher Z said:

This involves listening and speaking activities so that children can listen to the reading and also read the passage.

1.5. Key Competences of PLP

Participants were asked to explain each of the key competencies for PLP which included phonemic awareness, phonics, fluency, vocabulary and comprehension. The findings revealed that the teachers did not understand the explanation of phonemic awareness and fluency while they managed to explain on phonics, comprehension and vocabulary. The following were the responses:

Participant X stated that:

Phonics is the ability to read syllables. This is also the learners practice the sound of the day and other learnt sounds in a given lesson in Class. Comprehension is where pupils are asked some questions

about what they learnt. The learners are supposed to answer these questions the way the teacher has asked them to see if they have understood.

Participant Y added that:

The ability to answer questions is vocabulary. This is also the meaning of some words in a language. Comprehension is the ability to answer questions from the teacher. The learners are supposed to answer the questions which the teachers set, and this is what we call comprehension.

Participant Z also added that:

Vocabulary is the meaning of words. Pupils will mention the word starting with the sound of the day and will read the words according to the way they have made them. Comprehension is the understanding of what the learners have learnt in a particular lesson or discussion.

1.6. Assessment in PLP

Participants were asked to mention the weeks in which assessment was conducted in the Zambian PLP curriculum. Participants revealed that assessment was always scheduled for weeks 5, 10 and 13 of the Zambian learning term. The following were the responses:

Teacher X said:

We all have assessment in weeks 5, 10 and 13. These are the weeks where all schools in Zambia conduct learner assessments for the sake of making the system understand what is being done in schools.

Teacher Z noted that:

All assessments in the primary schools are conducted in weeks 5, 10 and 13 countrywide. These weeks are just planned for the assessments.

With regards to the number of phonemes which are supposed to be taught in a week, the participants mentioned that two phonemes were planned to be taught every week and the last day the two phonemes are revised. The following were the responses:

Teacher X said:

We always teach two phonemes a week. These phonemes are always revised on the last day of the week so that learners can understand what they missed in any lesson.

Teacher Y stated that:

We teach two phonemes every week and these are what are planned both in the syllabus, pupil's books and schemes of works. We always do a revision of the work on Friday each week. In short, we teach literacy the whole week and every day.

Teacher Z said:

As per the literacy framework, we always teach two phonemes as per plan and the last lesson is for revision of the phoneme of the week.

5.3.2. How teachers of different levels of qualifications understood the pedagogical recommendations of literacy and language?

This section was aimed at establishing how teachers of different levels of qualifications understood the pedagogical recommendations of literacy and language. The results are given in table form using the main theme and sub-themes.

Table 26: Theme and sub-themes which emerged

Theme	Sub-themes
How teachers of different levels of qualifications understood the pedagogical recommendations of literacy and language.	1.1.Pedagogical Content Knowledge 1.2.Activities in a PLP class 1.3. Conclusion of PLP lesson 1.4.Asessement of key competences in PLP

In assessing the pedagogical knowledge of the teachers in teaching literacy and language in the primary schools using PLP, teachers were asked different questions. To start with, teachers were asked on how they introduced a PLP literacy lesson. Participants established that they used storytelling, picture discussion, through a song on a given theme and picture reading to introduce a literacy lesson.

1.1.Pedagogical Content Knowledge

Teacher X stated that:

I usually use two ways of introducing a lesson in my literacy Class. Firstly, I make the learners sing a song with me on a given theme and I ask them some questions linked to the study. Another way is to show learners a picture which has things they have to mention. Then I will pick one item which I will use to teach the sound of the day.

Teacher Y said:

I usually start my lesson by telling a story to the learners then I tell them what they will learn from the story told. This makes me make the learners learn better than before.

Teacher Z also said that:

I use different methods when I want to introduce a lesson. Firstly, I usually present a picture to the learners, ask them to mention what they are seeing and present the lesson using the material I have share with them.

1.2.Activities in a PLP class

Participants were asked to give any two activities, which a teacher can use to teach the five competencies in a PLP Class. It was established that teachers asked learners to give words on a letter of choice according to the phoneme of the day, use a picture to make learners mention some words which contain the phoneme of the day and to sing a song which has specific phonemes to be taught. The following is what they said:

Participant X said:

When teaching phonemic awareness, I usually ask learners to say a word and I ask them to mention the letter or sound which starts the given word. For phonics, I give learners cards with sounds and cards with vowels, or syllables for them to make words. On fluency, learners are given syllables, words to read or story books.

Teacher Y stated that:

As for me, I ask leading questions to elicit the sound of the day under phonemic awareness. With phonics, I write a sound on the board and call out individual learners to read loudly. For fluency, I do give learners a short story on the sound of the day for them to read. I do discuss the meaning of different words to build their vocabulary. I do ask learners to watch a film and ask them to explain to Class 1 A as a comprehension activity.

Teacher Z also narrated that:

I make sure that I elicit the sound from the story when handling phonemic awareness. For fluency, I do ask learners to read words in a decodable story. For comprehension, I read a story to learners and ask them questions, or I ask learners to read a story to others and I ask them questions.

1.3. Conclusion of PLP lesson

Teachers were also asked to suggest two ways which they used to conclude a literacy lesson in their Classes. They established that they used songs on the sound of the day, going through what they have learnt and asking questions to learners on the content of the day as a form of lesson conclusion.

Teacher X said:

When I am concluding a lesson, I like using two ways. Firstly, I ask learners to sing a song on the day's lesson. In another way, I make learners read what they have learnt in the lesson to others in Class.

Teacher Y stated that:

I usually make learners go through the lesson of the day by mentioning what they have learnt in Class. On another day, I do make learners answer questions on what they have learnt in the lesson.

Teacher Z added that:

I go through what I have taught by way of revising the work. After that, I thank the learners, and I end the lesson.

1.4. Assessment of key competences in PLP

The teachers were asked to give a brief narration on how they assess the key competencies in their Classrooms. The participants established that they assessed vocabulary by showing learners an object and asked learners to write different sentences or words on the same object. On comprehension, they stated that they asked learners to answer questions from an oral source while the other competencies like phonemic awareness, phonics and fluency were not explained on how they are assessed. Below is what the three teachers stated:

Teacher X said:

On assessing vocabulary, I usually show learners an object; ask them to write a variety of sentences and also to make words using the sound of the day. I also ask them to match the sound of the day with other words.

Teacher Y stated that:

When assessing comprehension on learners, I do make learners answer questions from a story which they have read, or I read for them. Then, the learners do an oral exercise or written exercise on the given work.

Teacher Y is missing. All should be represented.

Teacher Z said:

I made learners answer questions, make words on the phoneme of the days, write and answer oral questions were necessary.

5.3.3. How teachers with different levels of qualifications taught literacy and Language in the classroom: Lesson Observation Data

Data for this research question was collected using classroom observation with the teachers who were sampled. Data is presented through lesson transcription regarding how the lessons progressed in the three classes taught by the three teachers. The teacher's characteristics are that Class 1 A was manned by teacher X who had a Primary teachers' Diploma and Degree. Class B was manned by teacher Y who had a Primary teachers' Diploma while Class 1 C was manned by teacher Z who had a Primary teachers' Diploma and a secondary teachers' Degree in English language and History.

5.3.3.1. Teacher X: Lesson Observation and Evaluation

Lesson Overview: The observed literacy lesson focused on teaching the consonant cluster /nd/, progressing from previously taught individual sounds /n/ and /d/. The lesson was taught to a grade 1 Class which had 40 learners. The teacher was Tonga by tribe. The lesson progressed as follows: The teacher presented the lesson using a picture of an Aeroplane and initiated a discussion from it.

aA eE il oO uU
nd Nd



Teacher: *iyi pikicha nafaka pa board, from umo mupikicha, ubona nzi?* (this picture I have put on the board, What can you see from the picture?)

Learners: *indeke, ndeke, Aeroplane*

Teacher: what else, *cinzi cimbi?*

Lesson: smoke, *mamvwili*, light, clouds etc.

Teacher writes on the boards the words which learners mentioned to be in the picture as being: *indeke, ndeke, Aeroplane*. Teacher then underlines sound of the day and modelled the pronunciation to the learners /nd/.

Teacher: *Mabalanzi ngomuzi agisi kanzunzumina /nd/?* (Which words do you know that have the sound /nd/ in them?)

Learners: *ndeo, ndalumba, ndabola,*

The teacher writes on the board the words the learners have said and the following words for practice: *ndamana, ndola, enda, ndasika*. Teacher underlines the sound of the day in each word for practice.

Teacher isolates the sound /nd/ and adds the vowels (a, e, i, o, u) to make syllables (nda, nde, ndi, ndo, ndu). Learners recite the syllables after the teacher.

Teacher: this is how we make a word using the syllables.

Nde + ke ----- ndeke e + nda --- enda

Teacher asks learners to make simple sentences using the syllables and sound of the day orally.

Pupil 1: *ndaunka kung'anda* (I am going home).

Pupil 2: *ndamvwa nzala* (I am feeling hungry).

Pupil 3: *ndaboola suno* (I am coming today).

Teacher tells learners to copy the word on the board.

Teacher deletes the sound of the day to the words which the learners have written, and it becomes an exercise. 1...unka 2. ...mvwa nzala. 3. ...boola suno.

Teacher marks some complete work and later revised the exercise with the entire Class. Corrections were made to the learners who did not perform better.

Teacher thanked the learners for the day's work as a conclusion.

5.3.3.2. Teacher Y: Literacy lesson on consonant cluster sound /nd/

The lesson on sound /nd/ was taught to a grade 1 class which had 40 learners. The teacher was Tonga by tribe. The lesson progressed as follows:

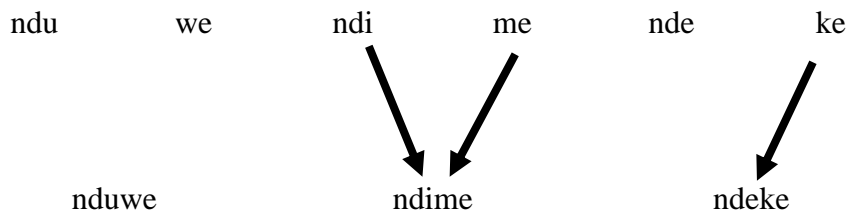
Teacher used a song to introduce the lesson. The song was in Tonga and had the sound /nd/ in most of the words which were linked sound of the day. The teacher then isolated the sound and wrote on the board as follows: *ndime, yanda, ndamana, nduwe, ndeke, ndasika, enda, ndaboola, ng'anda.*

Teacher underlined the sound of the day on each word written on the board and pronounced it.

Teacher: /ndi/, /nda/, /nda/, /ndu/, /nde/, /nda/ learners read after the teacher

Learners chorused: nda, nde, ndi, ndo, ndu

Teacher: so, *kubamba baala, mwelede kubelesya tunzunzumina* (a, e, i, o, u). (to make a word, you have to use the vowels (a, e, i, o, u) to add to the sound like: nda, nde, ndi, ndo, ndu. To make a word, we then do the following:



Teacher: pali andinwe muno mu class, nguni unga wabamba ma words from kutuvwumina tulu pa board? who can make a word using what I have shown you above? You should come and demonstrate to the board.

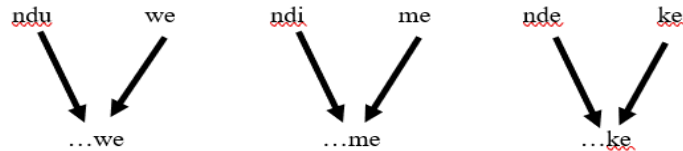
Pupil 1: *ndani* – the pupil separated the syllables and demonstrated how the word is formed.

Pupil 2: *ndeke* - the pupil separated the two syllables and demonstrated to the friends.

Teacher: with your friend at your desk, make a word with the sound /nd/ and separate the syllables.

(Pupils made words and they separated. Some words included *Nkunda*, *Kwenda*, *tunda*, *ndeke* etc.)

(Teacher gives an exercise by deleting some of the sound to the letters which learners made in the table below):



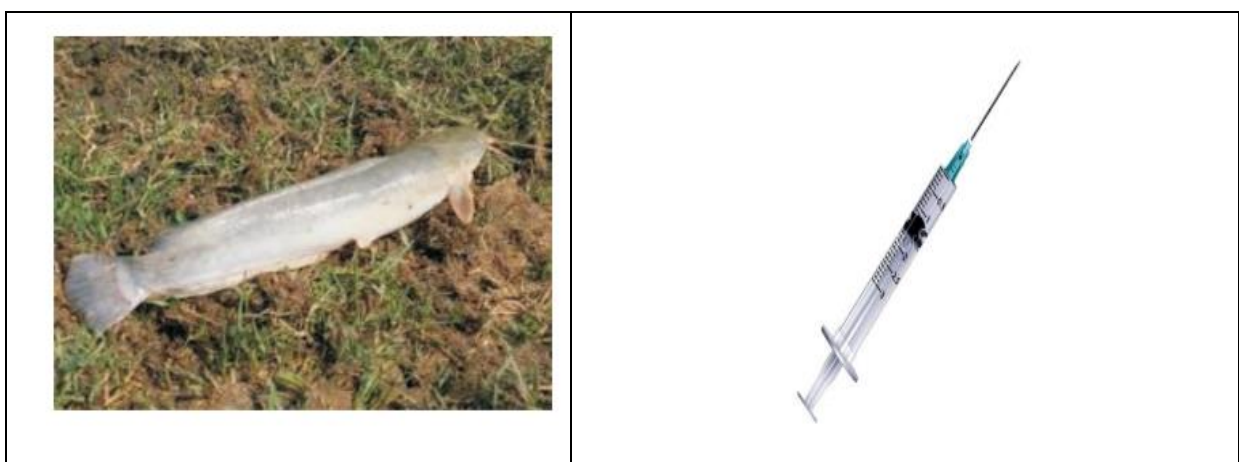
Teacher: copy this table and fill in the blanks.

Pupils write the exercise and the teacher marks. The lesson is concluded by revising the lesson and thanking the learners for the day's work.

5.3.3.3. Teacher Z: Literacy lesson on consonant cluster sound /nd/

The lesson on sound /nd/ was taught to a grade 1 Class which had 40 learners. The teacher was Chewa by tribe. The lesson progressed as follows:

The teacher produced a picture which two objects and asked learners what they were able to see.



Teacher: *Cinzi ncho ubona muchi pikicha?* (What are you seeing on the picture?)

Pupils: *nsomba, nyeleti, mubondo, Ndonga*, fish

Teacher writes the words the learners have mentioned on the board and isolates the words with the sound of the day: *mubondo* and *ndonga*. The teacher isolates the sound of the day /nd/ and asks learners to pronounce after her. Teacher introduces the vowels (a, e, i, o, u) to the phoneme and makes the following syllables (nda, nde, ndi, ndo, ndu).

Teacher: we make sound like this: the words ‘ndonga’ we get /ndo/ + /nga/ to make ‘ndonga’. She demonstrated using the board.

Teacher: Nguni uunga waboola andaanye mabala ali abboodi kweendelanya atuvwumina twawo? (who can come and separate the words on the board according to sounds?)

Pupil 1: ndeke, /nde/, /ke/

Pupil 2: ndeo /ndi/, /yo/

Pupil 3: ndamana /nda/, /ma/, /na/

Teacher: Nguni uunga wabamba mabala kubelesya kavwumina kabuzuba kwasunu? (who can make words using the sound of the day?)

Pupils: different words were made using the sound of the day orally.

Teacher: take out your books and write the following exercise. Teacher deletes the sound of the day to the words made and leaves lines for learners to write the sound of the day as exercise. Teacher goes round marking some complete work and concludes by thanking learners for the work well done.

5.4. What challenges do teachers of different levels of qualifications face in teaching learners from multilingual learning contexts in primary schools of Livingstone District?

The research question sought to establish the challenges teachers face when teaching literacy in multilingual context. Data collected through interviews reflected a range of challenges that have a bearing on the teaching of literacy in multilingual context. These challenges have been presented as sub themes in this section with specific details.

5.4.1. Lack of multilingual related teaching materials

It was also established that there was a lack of multilingual related materials in the sampled schools and classes. The participants revealed that teaching and learning materials like pictures, objects and reference books were not available in schools to help in teaching literacy in the multilingual classrooms so that they could learn the sounds.

Teacher X said:

There has been a lack of teaching and learning materials for us to teach literacy in this school. Materials like pupils' books and teachers' handbooks have not been received in this school apart from when the curriculum was launched.

Teacher Y said:

In this school, we have not received any teaching aid like charts, pictures, conversational posters and other wall posters to help us teach learners effectively. This has made us explain language concepts orally instead of showing learners.

Teacher Z stated that:

I have never seen materials being brought for literacy to support the teaching of this curriculum. The last time materials were brought was during the time it was introduced in 2014.

5.4.2. Language barrier

The majority of the respondents indicated that failure of learners to understand the language of instruction affected the teaching of literacy in multilingual set up. The following were the responses:

Teacher X said:

Most of the learners do not understand the local language of instruction and yet the teachers are busy explaining to them. The learners are not learning in this case while the teacher thinks they are learning. There is a need to use the language which learners understand for educational purposes.

Teacher Y stated:

The language issue is a reality in these Classes of today. Most of the learners do not understand the local language as they come from homes where they speak different languages therefore making it difficult to teach.

Teacher Z said:

The school is in a multilingual town, and we expect learners to have the knowledge of different languages which they speak in school. As a result, it is not easy to use Chitonga as a child's mother tongue/medium of instruction.

5.4.3. Over enrolment - no individual instruction

The other challenge teachers faced in managing multilingual classrooms was that most schools were over enrolled, and teachers failed to give a one on one help to the learners remaining behind either through remedial work or just close guidance in the appropriate language. Here are the verbatim:

Teacher X said:

Over enrolment is a big hindrance as it poses challenges in Class management as well as pupil attention during teaching is usually not enough. I have two streams to teach which big Classes are and this makes me tired. As a result, I cannot be effective.

Teacher Y stated that:

I have been failing even to make my learners respond in pairs, but I use group because there are many. This makes me fail to engage them in the language they can learn better as not everyone is able to respond to questions in class. This makes me fail to teach effectively.

Teacher Z said:

It is difficult for a teacher to do remedial work with slow learners due to over enrolment. Imagine a Class of more than eighty pupils and

more than half cannot read and write, how can you provide individual assistance to such learners in Class, it is not possible.

5.4.4. Parental attitude towards local languages/education

Teachers also revealed that parents had a negative attitude towards the language of instruction because it was not their home language. Teachers also established that that some parents have a negative attitude towards Tonga which was not commonly used in the many families around the schools.

Teacher X said:

The attitude of their parents towards education can also affect the teaching of literacy. When called to discuss the performance of their children, only a few usually come. Even when you start a conversation in a local language, the parents do not continue in most cases and tend to switch to English.

Teacher Y said:

The attitude of their parents towards education also contributes to the learners not performing well. Most parents do not support their children to learn in the local language. The children are not even helped with homework when it is in the local language.

Teacher Z said:

When we have a disciplinary case, some parents do not come to school after being called because they do not consider their children's education to be important. Fewer parents come when called and these are those who find education to be important.

It can be realized that some parents were interested in their children's education, hence some of them have a negative attitude.

5.5. What strategies can enhance teacher competence in multilingual learning contexts in the primary schools of Livingstone district?

This research question was answered by the three teachers who took part in the study. Their views and their practices are presented in this section through the themes which emerged

from the findings. The views of the participants are presented to demonstrate the authenticity of their views in this study in each theme. The teachers were asked on the strategies which they felt can enhance their teacher competencies in multilingual learning contexts in the primary schools of Livingstone and their responses were using the themes as presented below.

5.5.1 Teacher training to teach literacy in multilingual primary schools

The teachers suggested that teachers can enhance their teaching competences in multilingual learning contexts in the primary school if there was enhanced training of literacy teachers to handle multilingual learners in the primary schools.

Teacher X stated that:

If we are to teach better than we are teaching today in the new multilingual classes, we need to be oriented or trained on how to handle the classes of today. In colleges, we were only told that we need to use one language which the children are using in that particular zone which is not on the ground. This is the reason I feel that there is need for retraining on how to handle such complex learning environments .

Teacher Y added that:

I am trained to teach the primary school learners using the zonal language which is prescribed in the school curriculum. But the reality is that the zonal language is not used by the learners which makes me fail to also use the zonal language to teach effectively in class.

Teacher Z noted that:

I feel the policy which we are following is not giving us the reality we are facing in the classrooms of today because we are told to use the local language for instruction which is mostly not well known and used by the children in my school. The class I teach has few Tonga speakers and the rest speak other languages.

Teacher training institutions to integrate multilingual Education Based Teaching strategies in their curriculum

The participants also proposed that the colleges and universities should include the teaching of multilingual learners in their teacher training curriculum so that teachers can be ready to teach what is on the ground. The universities should simulate that teaching of literacy in multilingual classes and how it should be done so that teachers can be aware of the realities in the Zambian classes of today.

Teacher X supported that:

The universities and colleges have a role to teach what we need to teach in the primary schools of Zambia. The school realities to tell you are not in line with what we are trained. We have to make them tally so that teachers are met with real reality they are trained for.

Teacher Y also said:

During my training, the emphasis was on how to teach using own language and we were not told that a class can have learners coming from different linguistic background. The training and what I found in my class is very far from each other.

Teacher Z said:

I am sure if the universities were to make us learn from what is on the ground. I mean the language situation, which is in class, we can be better teachers. What we are taught about classroom language is very different from what we find ,so we become blank.

5.5.2 Teacher based Continuing Professional Development (CPD)

The participants also proposed that the strategies that can enhance teacher competence in multilingual learning contexts in the primary schools of Livingstone district was the use of competent teachers to demonstrate how to teach multilingual learning in real classrooms during CPD. They explained that there were few well trained teachers who were able to teach hence they could train others:

Teacher X said:

I feel we are many who need to this type of help. The CPDs we have involved teachers presenting to fellow teachers so that they can go

and teach learners. As much as this has been helpful, I feel it can be more helpful if the teachers conducted a lesson based CPD on learners with teachers.

Teacher Y stated that:

We have some teachers who have learnt how to teach learners in multilingual classes who we should learn from. The teachers are very much willing it is just the some of us who do not attend CPD meetings who are problems. We need to learn from this and help each other to become better teachers.

Teacher Z added that:

We have seen a lot of teachers preach to us on this and that on how to teach literacy in lower primary schools. We need to see teachers getting other teachers to their classrooms and teach the learners so that other teachers can learn from them. This is what will make us learn from others better and fast. Not mare preaching as CPD, it will not help.

5.5.3 Classroom demonstration based CPD

Participants also proposed that the CPD meetings should not be amongst teachers. It was suggested that CPD meetings should be about a teacher teaching a classroom while others are learning from the lesson in a multilingual classroom. This will help the teachers from different schools within the zone to acquire the same teaching skills.

Teacher X noted that:

Our school which is not more multilingual should be paired with a school which is multilingual and then conduct CPD together. This will help us learn from others on how they teach multilingual learners in this district.

Teacher Y added that:

I feel learning does not end at zonal or district level, but it has to go beyond that. I feel we need to engage other district where there are

more multilingual learners, we go see how they teach and the challenges they face. Through this, we shall learn better and be able to teach our learners better than before.

Teacher Z also observed that:

I also feel the teaching and learning materials we are using are not very much in line with the teaching of multilingual learners in the Zambian communities. There is need for us to see how our friends are using the same materials we have to help learners from different languages learn in the Zambian communities. This will help us understand where we have been going wrong and where we can improve.

The use of tangible classroom observations in a lesson will enable the teachers learn practically from the teachers who understand and know how to teach multilingual learners in the classrooms.

5.5.4 Multilingual Methodological based CPD

The other proposal was that of enhancing the use of multilingual teaching and learning methodologies which should help learners learn. It was established that teachers should be oriented on how to use multilingual practices like language mixing, code switching and translation among the many. This will help teachers practice in the CPD meetings and replicate the same knowledge in their classes.

Teacher X observed that:

I know to teach according to how I was trained. But I feel there is need for me to also learn some new methodologies and techniques which will help me manage and teach my multilingual classroom. I have heard that we need to be code switching which I do. But I do it for the sake of making learners use the concept I want. This and many others are what I am missing.

Teacher Y added that:

In fact, I have heard of code mixing where a sentence can have more than one language in it and it makes sense to learners. I really don't know where these come from and how we are supposed to use them in class. I do not need to speculate but to learn from the people who know.

Teacher Z said:

I have realised that I can no longer use the audio-lingual teaching methods to teach multilingual classes because these are rigid and do not allow the use of other languages. I mean, I need to learn about the new methodologies, for teaching children who speak different languages in one class. This has been my challenge.

5.5.5 PLP training on integrated lesson teaching

Teachers also recommended that there was need to make sure that the teachers are also trained regarding the teaching of PLP using the integrated lesson plan. It was proposed that the zonal insert coordinator should be tasked to train the teachers on the different ways of planning an integrated lesson plan for literacy in the primary schools. This will enable teachers to teach the same information in the Zambian primary schools.

Teacher X stated that:

I have seen different teachers adopting different lesson plans because where they were trained that is how they were taught. There is need to learn from insert coordinators who are always trained to train others on how to use these types of lesson plans. I feel we need to use them so that we can plan and teach the same information in the Zambian primary schools.

Teacher Y added that:

I know how to integrate the concepts in a lesson plan because I was taught by a friend from a nearby school. The next thing I need to learn is how I can plan an effected integrated lesson plan which will have

all the competences I am supposed to teach. If this happens, I will be able to help the learners acquire the needed skills in literacy just like the way other teachers do.

Teacher Z noted that:

I have made many attempts to ensure that I learn how to make an integrated lesson plan but there has been little help. I feel this help on how to make integrated lesson plans can be appreciated . This will enable us to learn from the experts on what ought to be done for us to be better teachers in this multilingual country.

5.6. Chapter Summary

This study explored the effect of professional teacher qualifications on learners' reading achievement in multilingual classrooms in Livingstone District. It found that teachers with qualifications aligned to primary education, such as a Bachelor's in Primary Education, had better literacy outcomes compared to those with secondary education qualifications. Pedagogical content knowledge (PCK) was also more effective in primary-focused teachers. Challenges such as parental resistance to local languages, over-enrollment, language barriers, and a lack of multilingual teaching materials hindered literacy development. To address these, the study recommended targeted teacher training, continuous professional development, and a focus on literacy instruction in multilingual contexts. These findings form the foundation for the next chapter, which will provide a comprehensive discussion, interpreting the results in the context of existing literature and theoretical frameworks.

CHAPTER SIX

DISCUSSION OF FINDINGS

6.1 Overview

This chapter presents a discussion of the findings from the study, which aimed to assess the effect of teacher professional qualifications on learners' literacy achievements in multilingual learning contexts in Livingstone District. The analysis covers key skills of literacy, including phonemic awareness, phonics, fluency, vocabulary, and comprehension, focusing on the differences observed across three classes taught by teachers with varying qualifications. Further, the chapter analyses how professional qualifications influence the pedagogical content knowledge of teachers and challenges teachers face in managing multilingual learning contexts. Lastly strategies to enhance teacher competence in multilingual learning contexts are presented based on the analysis of responses given by the teachers who were participants in this study.

6.2 Effect of Teacher Professional Qualifications on Learners' Reading Achievement in Multilingual Learning Contexts

This part starts with a discussion of findings on teacher competences, how teacher pedagogical and content knowledge influenced their performance in their teaching of the learners in class. All these factors are discussed in line with the effects they present to the learner's reading achievements and the classroom outcomes.

6.2.1 Phonemic Awareness

The findings regarding phonemic awareness revealed notable variations in learner performance across the three classes, each taught by a teacher with different professional qualifications. The paired samples test results show that Teacher X, with a bachelor's degree in Primary and a primary teachers' diploma, achieved the most substantial improvement in learners' phonemic awareness, with a large effect size (Cohen's $d = 1.29$). This highlights the importance of specialised training in primary education, which significantly enhanced the learners' phonemic awareness. Teacher X's qualifications in primary education appear to have equipped them with the necessary pedagogical tools to effectively teach phonemic awareness, leading to significant improvements in learner achievement.

Teacher Y, who holds a Primary Diploma, showed the smallest but still significant improvement (Cohen's $d = 0.41$). This result indicates that although Teacher Y's qualifications in primary teachers' diploma, the basic knowledge acquired contributed to the learner's reading achievement to some extent.

Teacher Z, despite holding a primary teacher's diploma and Bachelor's degree in English Language/History played, showed a moderate improvement (Cohen's $d = 0.58$), which was better than teacher Y suggesting that while expertise in a role in improving phonemic awareness, the qualification might have added little effect to the delivery of the content and knowledge in the primary schools. This performance therefore dispels the common misconception that knowledge of language or linguistics is the same as expertise in literacy.

The findings of the study are supported by Yasin (2021) who established that teacher qualifications have a significant effect on the academic performance of pupils in public primary schools in Hargeisa, $F_0 = 15.838 > F(2,157) = 3.06$; $p = .000$). The study argued that the formal education, experience and certification of the teacher have a significant effect on the performance. The findings also align with Moats (2023) who emphasised on the critical role of teacher expertise in early reading development. Teachers with higher specialized qualifications are better equipped to implement evidence based practices, which in turn lead to more effective phonemic awareness instruction. These results suggest the need for targeted teacher training programs that focus on enhancing teachers' ability to deliver evidence-based literacy instruction in the Zambian schools if the performance of learners could improve. A poorly trained and equipped teacher can not deliver better than a well-trained teacher hence there is need to depend on well trained teacher to deliver phonemic awareness which is key to student literacy acquisition in the Zambian classrooms. From the foregoing discussion, it can be seen that a teacher with a degree in primary education is better equipped to teach phonemic awareness than a teacher with a primary teachers' diploma and a secondary degree. This also demonstrates that teacher qualification plays a key role in improving learner performance in the Zambian schools hence this variable should be prioritised by employing agents and government.

6.2.2 Phonics

Teacher X, with a Bachelor's degree in Primary and a Primary teacher's Diploma, achieved a large effect (Cohen's $d = 1.16$), demonstrating the impact of their qualifications on phonics

instruction. However, there was more variability in the learner outcomes, indicating that while the qualifications were important, further refinement in instructional methods may be needed for consistency.

The analysis of phonics instruction also highlights significant differences in learner performance across the three classes. Teacher Y, with a Teacher's Primary Diploma, showed a moderate improvement in learner performance (Cohen's $d = 1.41$), suggesting that their instructional methods were particularly effective in improving phonics skills. The consistency in learner performance improvements further supports the idea that Teacher Y's qualifications were closely aligned with the instructional needs of phonics teaching.

Teacher Z's qualifications in English Language and History resulted in least performance and learner improvement in phonics (Cohen's $d = -1.04$), suggesting that subject specific expertise in English may not fully align with the pedagogical demands of phonics instruction and the contents of the primary school. This finding highlights the importance of ensuring that teachers have the relevant training and skills to effectively teach foundational literacy skills such as phonics. The findings also resonate with McNally's (2022) research, which emphasises the importance of teacher qualifications in delivering systematic phonics instruction. It should be understood that phonics is a key component for teaching literacy in lower primary schools. A teacher with relevant qualifications like a primary degree is considered to have both the content and pedagogical knowledge to improve learner performance in primary schools. It has become evident that a teacher with a diploma and those with degrees in other fields cannot perform better than one with a primary teacher degree. The policy direction on teacher training should ensure that teachers handling primary school learners should have a degree in primary education to ensure maximum delivery of content. This will enable teachers to teach effectively and thereby improving the primary education system in Zambia.

6.2.3 Fluency

Fluency results further underline the influence of teacher qualifications on learner achievement. Teacher X's approach, with a Bachelor's in Primary Education, yielded a slightly larger effect (Cohen's $d = 0.68$), suggesting that Teacher Y's qualifications contributed to a more substantial improvement in learner fluency. Teacher Y, with a Primary Diploma, demonstrated a medium-to-large effect (Cohen's $d = 0.66$), with a statistically

significant improvement in fluency. Similarly, Teacher Z, with a Bachelor's in English Language/History, also contributed to a meaningful improvement (Cohen's $d = 0.63$), though the effect was somewhat smaller compared to the other teachers.

These results indicate that teacher qualifications, combined with effective teaching methods, significantly influence the development of reading fluency. As supported by Porter (2023), teachers with greater expertise in early reading are better positioned to foster fluency in learners, which is critical for reading development. The results are supported by Yasin (2021) who also found that the performance of pupils having teachers with high teacher qualifications was higher than the performance of pupils taught by teachers with low and moderate teacher qualifications (61%, $S = 21.48$). Further, MOE (2013) supports that qualified teachers in the relevant sector should be employed as teachers to enable them to teach the five principles of literacy in the Zambian curriculum. This pointed to the fact that academic performance of pupils increases with teachers' qualifications. However, results suggest that qualification of the teacher affects performance of students in public primary schools hence it is important that teachers who are qualified are assigned to teach so that the educational gains can be realised in the children.

6.2.4 Vocabulary

The vocabulary findings also reveal the importance of teacher qualifications in enhancing literacy. Teacher Z, with a bachelors in English and History and a Primary Diploma, demonstrated a large effect (Cohen's $d = 0.79$), highlighting the importance of specialised subject knowledge in supporting vocabulary development. Teacher X, with a Bachelors' primary and a diploma in Primary Education, showed moderate improvement in vocabulary acquisition (Cohen's $d = 0.72$), indicating that their qualifications contributed to a strong vocabulary instructional approach. Teacher Y, with a, showed the least improvement (Cohen's $d = 0.45$), suggesting that relevant qualifications affect instructional methods are still effective in enhancing vocabulary skills. Despite the large effects on all teachers, the ranking still demonstrates that Teacher Z out performed Teacher X who also outperformed teacher Y. The reason for this better performance by the teacher with a secondary qualification can be attributed to the extensive vocabulary which a degree in English language program has unlike the primary degree and diploma which has more of literacy and language. Therefore, teacher training needs to ensure that vocabulary is extensively taught on the course to improve teacher output in this competence.

These findings are consistent with research that highlights the role of teacher expertise in supporting vocabulary development (The Educator's Science of Reading Toolbox, 2023). Teachers with specialised training are more likely to implement effective vocabulary instruction, which has a significant impact on learners' overall literacy achievement. The findings are further supported by Wilden, Porscho, and Schurig (2020) who found that a qualified teacher with a higher qualification in the lower primary was better placed to teach vocabulary and fluency in the primary schools than a seasoned unqualified teacher. Therefore, the qualification of a teacher was relevant to the understanding of the type of vocabulary a learner should use and its activities in order to make sense of their learning. Indeed, a primary school teacher who has a degree in primary education understands how to teach vocabulary better than a teacher who has not got such a degree hence it should be a point of campaign that qualified teachers should be handling the primary classrooms for better results in the Zambian schools. Despite the other teacher having a secondary degree, they failed performed perform better than a teacher with a diploma which meant that a relevant qualification in given line expert brings about relevant learner outcomes. Therefore, not every degree qualification should be linked to better learner outcomes apart from a relevant qualification linked to the primary school education sector.

6.2.5 Comprehension

The analysis of comprehension scores revealed significant improvements in all three classes, with Teacher X with a Primary Bachelor's degree and Diploma had the largest improvement (Cohen's $d = 2.35$), reflecting the effectiveness of their instructional strategies in improving reading comprehension as a result of qualification. Teacher Y, despite holding a primary teacher's diploma, showed a moderate to large effect (Cohen's $d = 1.33$), suggesting that their subject-specific expertise was beneficial, though not as impactful as Teacher X's approach. Teacher Z's class who holds a Bachelor's degree in English Language/History showed the least effect as well (Cohen's $d = 1.16$), indicating that the qualification in a different field did not contribute to the learner achievement in the primary schools in Zambia.

These results support the conclusions of Kirsch et al. (2020), who argue that targeted professional development enhances teachers' instructional strategies and, by extension, learner outcomes. Teacher qualifications, coupled with effective pedagogical practices, have a direct impact on learners' ability to comprehend texts. However, this relationship is not always the case, For example, Lubumbe (2024) found the despite some secondary school

teachers being qualified, they did not impart the necessary reading comprehension skills in totality. In support, Mkandawire (2022) found that there were multiple factors contributing to low performance in reading comprehension which included lack of knowledge by some teachers on the procedure for teaching reading comprehension and therefore, taught poorly. All the teachers mostly focused merely on reading, speed, pronunciation of words and vocabulary instead of using relevant techniques and activities to make learners understand the text. Through this, it can be argued that comprehension teaching is better done by a teacher who is well qualified in the primary sector unlike those who do not have higher qualifications in the primary education. It is important to emphasise that teachers with the highest qualifications in primary education should be appreciated as they contribute to learner achievement in primary schools.

6.2.6 Overall Learners' Performance in Literacy and Language

In terms of overall literacy performance, the findings suggest that teacher qualifications play a crucial role in determining learner outcomes, but they are not the sole factor influencing success. Teacher X, with a degree in primary education achieved the largest overall effect (Cohen's $d = 1.33$), while Teacher Y, with a Primary Diploma, also achieved a notable medium-to-large effect (Cohen's $d = 0.85$). Teacher Z, despite their academic qualifications in secondary degree, showed a somewhat the lowest effect among the three teachers (Cohen's $d = 0.84$), indicating specialized training was a major factor in determining quality teaching and high learner achievements.

The study findings indicated that Teacher X performed better than teacher Y who also performed better than teacher Z. the findings of the study can be attributed to the fact that a teacher with higher specialised training is better than higher unspecialized training as well as better than a lower specialized qualification when it comes to knowledge and pedagogy and content. The foregoing findings are in line with the Expert theory by Ericsson (1993), especially the first two principles on Deliberate Practice and Domain-Specificity. The study findings and discussion highlight the importance of appreciating efforts in skill mastery by the teachers because this is what makes them produce better products unlike the untrained teachers. This means that teaching is a dedicated practice session which aims at improving performance within a specific domain in the education system. Secondly, Domain-Specificity underscores that expertise is often limited to particular areas rather than being universally applicable. Therefore, trained teachers in primary schools tend to understand what they are

supposed to teach in their field of profession unlike the less trained. It is in this vein that David (1980) argued that an expert should be distinguished from a novice because an expert acquires experience and contextual knowledge to contribute to teaching expertise while a person who is not trained can not contribute relevant knowledge to the profession. In this context, the teacher who held a degree in primary education proved to be a better expert in the teaching of learners in the primary school hence they performed better than a teacher who held a primary teachers diploma and the one with a secondary teacher's degree. Therefore, experts should be appreciated in the education system because they bring about improved learner performance in the classrooms.

From the performance teachers exhibited alongside their qualification alignment, the study can argue that teaching primary school learners effectively needs a primary degree qualification. Despite teacher Y possessing a diploma in primary education, it can be seen that the teacher was able to apply the basic teaching methods while teacher Z, with a degree in secondary education, seemed to be lost in the primary section. The teachers in this case have to acquire relevant qualifications in primary education for them to demonstrate the knowledge they have acquired and share with the learners. As much as content is prepared through the Ministry of Education, this study shows that teachers need higher specialized training in the subject matter they will teach in primary schools in order to improve learning outcomes in literacy and language. This means that content and pedagogical knowledge is in tandem with their qualifications which eventually influence their teaching and learning outcomes.

6.3. How teachers of different levels of qualifications understood the key content of literacy and language

The findings of the study revealed that the participants did not understand the five core skills of PLP in the national literacy framework. This was also evident from the lessons which were observed where the teachers did not consider fluency in their teaching of the concept of the day. These findings are supported by Desta (2020) whose study revealed that teachers failed to practice the teaching of early reading in line with the purposes and principles of teaching early reading. Teachers used traditional way of teaching approach in teaching reading because they were deficiently trained regarding phonemic and phonological awareness. In addition, Tembo (2024) support that colleges of education did not explicitly teach how teachers should teach the five core skills of PLP but they learnt from the schools when they

went to teach. This reality demonstrates the gaps which exist between the teacher training institution and the practice in the schools. In this context, the qualification of a teacher seemed not to matter in because all the teachers did not understand the five core skills which they have to teach in the literacy classes in the Zambian schools.

The study findings established that all the teacher who were observed and interviewed used pre-reading activities in their lessons. It should be noted that teachers have to use pre reading skills to make learners practice the reading in the classroom. These findings are in tandem with Piper, Schroeder & Trudell (2016) who indicated that many children could read English words more easily than words in Kiswahili or their mother tongue; nevertheless, their reading comprehension was significantly lower in English than in Kiswahili, Dholuo or Gikuyu because teachers did not use pre reading activities as they taught. VVOB (2025) argue that learners have to be exposed to different pre reading skills before they could start the actual reading in the schools so that they can acquire good reading manners in the schools. Therefore, the teacher's knowledge on the use of pre reading skills provided an understanding that they were in the right path to impart the literacy skills in the learners whilst in the lower grades. The underlying factor is that teachers have to be better trained for them to have this knowledge of using pre reading skills in the classroom correctly to benefit the learners.

The findings revealed that the teachers did not understand the explanation of phonemic awareness and fluency while they managed to explain on phonics, comprehension and vocabulary. This was also true as the observations from the three classes confirmed this insufficiency. The teachers did not bring in activities to reinforce and practice the sound of the day so that learners are able to link the sound to their environment despite using relevant pictures and a song. These findings are supported by Haile and Mendisu (2023) whose study showed that a lack of subject content and pedagogical knowledge, inadequate teaching materials, inadequate teacher- training programs, a lack of an enabling, literacy- rich environment, and a lack of in- service training in the first grades pose major challenges to the teaching of phonemic awareness. In addition, Tembo (2024) also found that lack of phonological awareness skills in teachers posed challenges in using strategies to teach phonological awareness in lower primary schools. He further argued that teachers who found it difficult to teach phonological awareness, ended up teaching only three instead of the five competences in a single literacy lesson. The lack of understanding of the principle of phonemic awareness is rather a crucial situation for the teacher of literacy and this is the first skill which should be taught to the learners by the teachers. With the expressed ignorance

regarding phonemic awareness, it can be stated that the teaching of literacy in the primary schools is not well done by the teachers across qualifications. In this case, it would have been easy for the teachers to understand phonemic awareness since all have a primary diploma as initial qualification unlike the ignorance expressed in this study.

The study findings indicated that student assessment was always scheduled for weeks 5, 10 and 13 of the Zambian learning term in the primary schools. Therefore, any assessment outside these planned weeks was not supported by the ministry of education and was not considered to be valid. These findings are supported by the MOE (2013) which stated that literacy assessments shall be conducted periodically in weeks 5 and 10 in every province and district to ensure that pupils are learner progress is recorded. Mkandawire (2023) did not support these weeks of assessment as he argued that they were robbing learners of precious time to learn four sounds in a term because by the end of the year, it is a total of 6 weeks which amounts to half a term. Meanwhile, Wu (2024) argued that assessment in language helps in the development of students' English key competence and that teachers should evaluate students' English learning from the perspective of the development of students' English key competence. Through assessment, it becomes easier for the teachers to monitor progress of the learners routinely so that if there is any intervention, they should be worked on faster than expected in the process. To this, teachers need to have the pedagogy to enable them to deliver the prepared content smoothly so that effective learning can take place as planned for the learners. This will also help learners to learn the planned content within the right weeks as the assessments are always across the province.

From the foregoing, teachers of different levels of qualifications understood the key content of literacy and language differently. Evidence from this study argues that degree holders in primary education possess relevant knowledge and content to teach in primary schools. This then mean that teachers in primary schools needs to have a minimum qualification of a primary degree if we are to see learner improvement. The government is therefore challenged to consider employing teachers with a minimum qualification of a primary teachers' degree as this cadre will enable provide relevant education to the learners and their performance will consequently improve. To this, it can also be viewed that teachers with higher qualifications have improved delivery methods of content, and this provides a positive impact on the education system.

6.4. How teachers of different levels of qualifications understood the pedagogical recommendations of literacy and language

In exploring the understanding of the pedagogical recommendations of literacy and language teachers, participants established that they used storytelling, picture discussion, song on a given theme and picture reading to introduce a literacy lesson. This was also evident as teacher X introduced the lesson using a picture, teacher Y used a song and teacher Z used two pictures which spoke to each other. This provided evidence that teachers were able to introduce literacy lessons as per the recommended pedagogical structure. These findings are supported by Chipili (2016) who stated that teachers were playing a key role especially in the preparation of the decodable stories; they were able to create stories using the sound and syllabus of the day. In addition, Lungu (2024) agreed that the use of systematic explicit instruction, making connections with text, teaching words in isolation, in context, graphic organisers, visual evidence, peer assisted, translanguaging, text structure, summarising important points, scaffolding, visualising, predicting, sandwiching, and read aloud were effective multilingual instructional strategies to teaching reading comprehension in English. The foregoing demonstrated that the teachers had the pedagogical knowledge to teach the literacy learners from the way they introduced the lessons. The teachers have proved to have possessed the content knowledge because they were able to link the content of the day's lesson and the teaching and learning materials provided to them.

The study findings established that teachers asked learners to give words on a letter of choice according to the phoneme of the day, use a picture to make learners mention some words which contain the phoneme of the day and to sing a song which has specific phonemes to be taught. All the teachers observed actually ensured that they engaged learners in word making from the sound of the day which were then categorised according to the language of instruction. To prove this, teachers wrote the words on the board which was part of vocabulary for the lesson. The engaging of learners in the lesson to make words is supported by Young, Mohr & Rasinski (2015) who found that learners in the treatment demonstrated increased reading expansion, reading rate, and overall reading scores because Reading Together is a feasible method of increasing proficiency and that learners become creative in the process. The findings are also in tandem with Lungu (2024) who found that teachers used strategies such as group work, pair work read and aloud and whole class to teach literacy in English. Teachers in this study made correct decision by engaging the learners through vocabulary building. The teacher's efforts of making learners come up with words from the

sound of the day was the way of helping learners interact with the sound of the day in a practical manner. This was the basis for learning and skill acquisition for the learners actually. The learners are able to demonstrate the application of the sound beyond the classroom which demonstrates the pedagogical understanding and applicability of the content in the learner's lives. The process of engaging learners into the lesson goes beyond outcome achievement but making learners appreciate that the words are in their environment beyond the classroom.

From the classroom observation, it can be stated that multilingualism was present in the classroom because the teachers were able to accept the responses which were in different languages. This can be seen learners from teacher X who mentioned *indeke, ndeke, Aeroplane*, while teacher has the following word from the class *ndime, yanda, ndamana, nduwe, ndeke, ndasika, enda, ndaboola, ng'anda* and teacher Z had the following words *nsomba, nyeleti, mubondo, Ndonga, fish*. From the responses and words documented in the two classes, it is evident that we have words coming from English, Bemba, Nyanja and Tonga demonstrating how multilingual these classes are. These findings are in line with Nyimbili (2021) who also found that the classrooms of today are multilingual and that teachers should appreciate this fact, and they should use multilingual pedagogies like translanguaging practices in the teaching of literacy and language. Mungala and Mwanza (2024) argue that code mixing, code switching and concept translation are common practices teachers have to use in multilingual classrooms when teaching. This can be evidences too when teacher X asked learners '*iyi pikicha nafaka* pa board, 'from *umo mupikicha, ubona nzi?*' Teacher Y also code switched in the sentence (*pali andinwe mu* class, *nguni unga wabamba ma* words from *kutuvwumina tulu* pa board?) used Tonga words with Nyanja (*pali* and *mu*) and English words (*class, words* and *from*).

Teacher Z also use the following words to ask learners: *Cinzi ncho ubona muchi pikicha?* The conversations were a clear demonstration that the teachers were utilising the multilingual space which was existing in their classrooms by code switching between English and the local languages. This also resonates with what Bwalya and Mwanza (2019) who noted that classroom democratisation brought about linguistic freedom as learners freely uses their language of play for academic purposes. The uniformity in enabling teachers to code switch between English and Tonga can be attributed to the basic knowledge which all of them acquired during the primary teacher's diploma training where they are taught to teach learners using the community language where possible. However, teacher X went further and

code mixed Tonga, Nyanja and English which was appreciating the classroom multilingualism in the class was entangled into. However, teacher Y and Z only ended and code switching which was limiting in catering for the entire class which was multilingual. This practice by Teacher X can be linked to the knowledge competencies which they have acquired over time due to the relevant qualification they possess. This revelation means that teachers who have a higher qualification in primary education are able to teach literacy effectively using multilingual practices that are beneficial to the entire classroom unlike ending at first level. The implication for this is that teachers should prioritise to acquire higher qualifications in the field of specialisation if they are to make a positive impact in their classrooms. For foundation grade, it can be stated that the school managers and government should put in place policies to ensure that teachers with primary degree are handling lower grades if the education system is to improve in the multilingual Zambia.

In concluding the lessons, it was established that teachers used songs on the sound of the day, going through what they have learnt and asking questions to learners on the content of the day as a form of lesson conclusion. These findings are in line with the pedagogical guidelines which the different policies and ministry of education teaching guidelines as well as syllabus. These results are supported by Mkandawire et al., (2023) who observed that primary school teachers use diverse strategies to teach literacy, and these includes mixing languages when teaching, use of real-life materials, games and talking or word walls. Also, Haile and Mendisu (2023) recommended that teachers need to be adequately equipped with content and pedagogical awareness, to be provided with phonological awareness resources, and they require support by way of in- service training to enhance the teaching of native- language reading skills in early grades. Lesson conclusion indeed needs to be social and cognitive because the learners have to make sure that they revise what they learnt and master the content. Therefore, the teachers were able to enforce this by ensuring that learners revised the contents of the lesson which was a demonstration that they understood the contents they taught, and they used the correct pedagogy to conclude the literacy lessons in their classrooms. This demonstrated that teachers who understand the content to teach and how it has to be taught are likely to end their lessons relevantly as the three teachers demonstrated. It can also be argued that experience can be at play in concluding the lessons because they have mastered the art of concluding lessons. Indeed, but the counter argument is that the teachers' experiences are from the content they have practiced and the knowledge they have come to share in the process of teaching literacy in the primary schools. this implies that teacher's

pedagogical knowledge is at play and should be encouraged by all means if better conclusions can be performed in primary schools.

The study findings established that they assessed vocabulary by showing learners an object and asked learners to write different sentences or words on the same object. This was evident from the three classes as the teachers asked learners to make learners from the sound of the day which were later discussed in class. On comprehension, it was found that they asked learners to answer questions from an oral source while the other competencies like phonemic awareness, phonics and fluency were not explained on how they are assessed the learners. These findings are in tandem with Cekiso (2017) whose study showed that the majority of teachers were not adequately prepared to teach reading and to deal with learners who experience problems in reading. It was also found that some teachers indicated that they were not even trained to teach in the Foundation literacy as they doubted if their classroom practice would yield positive results as far as reading instruction is concerned. This presents a divided content knowledge which teachers expressed in the study. Vocabulary discussion should have come from the learners' understanding and the phoneme and its representation in the environment hence they made words which were discussed. From this, it can be noted that teachers did not understand that they had the content and pedagogical knowledge to teach literacy. Through asking learners to make words, it was an assessment of phonemic awareness, phonics and vocabulary while what they did not manage to assess was comprehension and fluency. These are the two skills which needs reinforcement in the Zambian schools where multilingualism is prominent.

The foregoing discussion has provided empirical evidence on how teachers of different levels of qualifications understood the pedagogical recommendations of literacy and language. It has argued that teachers with higher qualifications of primary degree show expert knowledge in teaching literacy because there is evidence that performance of learners improved. To this, the expert theory then supports this fact by arguing that teachers with higher qualification in the primary education become trained experts and their knowledge coupled with content becomes useful to the teaching of learners in their classes as the learners' benefit. To this, the education system should then invest in building experts in the primary schools with relevant qualifications so that they can be teaching learners for better results in the Zambian schools. Apart from that, degree holders in primary education should well distributed in schools so that the quality of delivery and performance is improved since these teachers have the needed content and knowledge for effectively learner performance improvement.

The three teachers' performance demonstrated that they presented the lessons in the common manner because they followed the standard lesson presentation which is prescriptive. The procedures call for the lessons to start with phonemic awareness, phonics, fluency, vocabulary and writing. The individual lesson differences can be attributed to the pedagogical content knowledge levels which differs from one teacher to the other because of their educational level, course competences and knowledge in the field of study. In this case, the study attributes to the teacher with bachelors' in primary to be more competent due to the advanced teaching pedagogy they have acquired in literacy and language which the other two teachers lack. Therefore, the moderate performance by a teacher with a diploma demonstrates this qualification is for basic content delivery which does not make the teacher become better than a degree holder in the same field. The failure to deliver literacy lessons amongst the three teachers by the teacher with the highest qualification which is not in the primary education mean that such teachers lack pedagogy to handle the literacy lessons. This then tells that teachers with prescribed lesson procedures create an artificial uniformity across classrooms while the differences are realised through the teacher's pedagogical competencies and content delivery in the primary classrooms. Therefore, teacher competencies at individual level are linked to teacher qualifications.

6.5 Challenges teachers of different levels of qualifications face in teaching learners from multilingual learning contexts in primary schools of Livingstone District

There were different challenges which different teachers faced in the process of teaching the multilingual learners in the primary schools of Livingstone district. These challenges are thematised under, lack of multilingual related teaching materials, language barrier, over enrolment and parental attitude towards local languages in education.

6.5.1. Lack of multilingual related teaching materials

The study also established that there was lack of multilingual related materials in the sampled schools and classes. The participants revealed that teaching and learning materials like pictures, objects and reference books were not available in schools to help in teaching literacy in the multilingual classrooms so that they could learn the sounds. The findings on lack of teaching and learning materials in zambian schools are in line with Nyimbili and Mwanza (2021), Mubita and Mwanza (2020) and Mwanza (2020) studies that also reveled lack of teaching and learning materials as a challenge to classroom instruction while Chibesakunda and Mulenga (2019) added that there was a lack of teacher's guide books and learners' text

books to use in teaching initial literacy hence teacher's delivery of lessons was negatively affected. The findings were also supported by Desta (2020) who found that lack of teacher training, lack of materials, and unrelated educational qualification were major impediments of teachers while implementing teaching early reading. Meanwhile, Matsa, Moyo and Sibanda (2018) revealed that teachers and learners encountered a lot of challenges in the teaching of Ndebele cultural aspects because teachers lacked deeper knowledge of the Ndebele language and culturally rich instructional media to conduct effective lessons such multicultural classrooms. The lack of teaching and learning materials has been persisting in the different schools and countries and they have contributed to the poor performance of learners in literacy and language. The implication of this problem is that it makes teachers to be perceived as incompetent because they can not deliver their lessons effectively using the right pedagogy. Also, they seem to look as if they have no content and yet it is the materials which are lacking for use in a given linguistic situation. This leads to teachers to deliver their lessons without relevant materials thereby compromising the quality of education in the primary schools. despite other sources claiming that teachers should be resourceful and innovative by making local teaching and learning material, there should be investment in material provision so that learners can learn using standard material instead of makeshifts which are not standard. This leads to compromising quality of education provision.

6.5.2. Language barrier

The findings of the study indicated that the language of instruction was not the language of play for most of the learners in the classrooms. It was also found that failure by learners to understand the language of instruction affected the teaching of literacy in multilingual set up. These results are supported by Simachenya (2016) who agreed that Livingstone is a multilingual town, and the classroom was not characterised by the use of Tonga. Nyimbili (2021) too stated that the classrooms of today are not corresponding to the zones which were created long time to enable teachers use zonal languages in Zambian schools. Further, Sombonah, Ankrah & Korang (2024) affirmed the existence of various challenges in the multilingual classroom, including weak linguistic background and learner anxiety. Chibesakunda & Mulenga (2019) also add that although the Ministry of General Education zoned Serenje district under Icibemba instead of Icilala in teaching initial literacy, learners' performance was low because the language used in school was unfamiliar to learners. The language barrier revealed in this study was not exclusive to Livingstone district but to many Zambian schools because the classrooms of today are multilingual unlike what the policy

makers seem to think of. Therefore, multilingual teaching approaches should be employed to enable the teachers break the barriers so that learners can learn effectively. The influence of language in teaching and learning is key because the teachers and learners use it as a medium of interaction within the lesson. Barriers in classroom communication results into learners failing to grasp the content of the subject matter despite the despite the teacher having the best pedagogies in the delivery of knowledge in classrooms.

6.5.3. Over enrolment - no individual instruction

The other challenge teachers faced in teaching multilingual classrooms was that most schools were over enrolled, and teachers failed to give a one on one help to the learners remaining behind either through remedial work or just close guidance in the appropriate language. These findings are in line with Mubanga & Musenge (2020) who also found that the challenge of over enrolment of pupils in the schools in the early grades was common because the government schools were few in the area and this led to teachers failing to pay attention to learners with learning difficulties due to the high pupil to teacher ratios. Other scholars too have supported this finding like Kotira & Shizhou (2022) who found that challenges of overcrowded classroom, lack of teaching materials and teachers' poor knowledge on how students acquire second language to be a hindering factor to learner achievement in early literacy classes. The classrooms of today have become over crowded because the government has enhanced the free education policy by ensuring that every child attend school instead of being home due to school requirements. The teachers have come to find classroom spaces not enough especially in urban classes like Livingstone. This situation does not help teachers to ensure they help those lagging behind effectively because it becomes difficult to mark all the books and the work given becomes minimal. Therefore, the over enrolment becomes a challenge to the effective teaching of literacy in the Zambian multilingual schools which should be talked about. The implication of this is that the learners attend class yet their knowledge grasp is limited because they do not have access to the teacher for personal interaction. Due to large class, the teacher's pedagogical application cannot be effective because they need to deal with many learners at the sometime. Exhaustion and strength depletion becomes common hence they only attend to fast learners making the slow learners struggling. In this case, teacher knowledge cannot be assessed in such classes as there is a compromise of quality through the system. The teacher's expert in subject matter and knowledge sharing cannot be evaluated in this case.

6.5.4. Parental attitude towards local languages/education

The other challenge established in this study was that parents had negative attitude towards the language of instruction because it was not their home language. It was also established that some parents have a negative attitude towards Chitonga which was not commonly used in the many families around the schools. The negative language attitude was confirmed by Lungu (2019) who found that parents were not happy with the PLP language policy of using local languages as language of classroom instruction from grade one to four. They preferred that their children to be taught the English language, they felt it was an official language for literate people as compared to an inferior language (Chinyanja). Mkandawire (2023) added that parents in Lusaka district had a negative attitude towards the use of Chinyanja as a language of instruction because it was not the language of play, and it was not closer to the Chinyanja which the children used as a language of play. Therefore, language attitude brings about a compromise on learner performance in the classrooms because the children tend not to consider the classroom language as an important language. The building of positive language attitude will bring about positive learning outcomes in the multilingual classrooms because all languages will be considered to be important.

The foregoing discussion on the challenges is in line with the expert theory by Ericsson (1993) following the principle of mental representation as a distinguishing feature of experts. He argues that trained teachers possess intricate mental models of their field, facilitating rapid information processing and informed decision-making based on extensive experience. For the teacher with well aligned qualification of a diploma and degree in primary education, it can be stated that if all teachers were to possess such qualifications, then the teaching of literacy would have less challenges in the Zambian primary school. Therefore, for teachers to teach literacy effectively in Zambia, they should have both the content and methodology from their training. This would then reduce the challenges which they are facing as a result of the lack of effective teacher training, and they would become experts in their field. The implication in this case is that the teachers are blamed for not displaying their content knowledge in the classroom meanwhile the system is made of different challenges which prevent their content delivery. Because of this, teachers being well trained and showing relevant experience in the classroom have been blamed for failing to help learners perform better in literacy. Positives in this case have to be considered because teachers are trying their best while the school and classroom factors are limiting the teachers to demonstrate their ability to show their content knowledge through the challenging system.

6.6. Strategies to enhance teacher competence in multilingual learning contexts in the primary schools of Livingstone district

Despite the challenges which are faced in the multilingual classrooms in Zambia, there are specific proposals which can be proposed to improve the teaching and learning of literacy in Zambia. These proposals are presented under the following subheadings: Teacher training to teach literacy in multilingual primary schools, Teacher based Continuing Professional Development (CPD), Classroom demonstration based CPD, Multilingual Methodological based CPD and PLP training on integrated lesson teaching.

6.6.1. Teacher training to teach literacy in multilingual primary schools

The teachers suggested that teachers can enhance their teaching competences in multilingual learning contexts in the primary school if there was enhanced training of literacy teachers on how to handle multilingual learners in the primary schools. This will help the teachers who are supposed to be trained to teach in the Zambian schools to acquire the relevant skills whilst in teacher training institutions. Mungala and Mwanza (2024) agree that teachers being trained should be trained to teach multilingual learners because this is the reality of today. The teachers themselves despite being in one classroom do not come from one linguistic background hence they should be exposed to multilingual teaching methods which are prominent in the schools of today. These results are also in tandem with Pittman, Zhang, Binks - Cantrell & Hudson (2019) who revealed that teachers located in low socio- economic status schools did not have explicit knowledge needed to effectively teach struggling readers. Although the teachers possessed a high level of knowledge regarding syllable counting skills, they lacked knowledge related to morphology. Nyimbili (2021) also support these findings when he recommended that translanguaging practices should be used to teach the multilingual classes of today since the classrooms are multilingual. In this context, teachers should be made to learn the realities of the classrooms they will be teaching by making them understand that the policy of zonal language is not in every school. The colleges should make sure that teachers understand the need to be eclectic (Mwanza, 2016) and use their classroom language to make meaning of the lessons. This will make the multilingual environment become and reality and useful to the learner's knowledge quest in the education system. If this is enhanced, we shall have teachers who are well trained in teaching literacy in Zambian schools, and this will lead to better performance. The teacher training will enable teachers to acquire the pedagogical skills which they do have thereby employ them when teaching

literacy. This will also concretise the concept that better trained teachers influence better literacy outcomes among learners in the Zambian classrooms.

The findings from the study also proposed that the colleges and universities should include the teaching of multilingual learners in their teacher training curriculum so that teachers can be ready to teach what is on the ground. The universities should simulate that teaching of literacy in multilingual classes and how it should be done so that teachers can be aware of the realities in the Zambian classes of today. These recommendations are in line with Mungala and Mwanza (2024) when they recommended that universities and teacher training institutions should consider training teachers in multilingual pedagogies so that they can teach well when they go into schools. The other option is what was suggested by Alemayehu (2021) who recommended that teachers colleges and universities should emphasise the importance of professional development through multilingual training in the Zambian curriculum implementation. These measures are some of the quick ways in which literacy teaching would improve as some teachers are not fully prepared for the teaching task. This measure will also bring to the attention of the students that the schools in Zambia are multilingual hence these practices are relevant to be implemented. The consequence of colleges training teachers using multilingual is that the college graduates will not need to undergo retraining when they are deployed because they will acquire the content and the knowledge to teach the learners in the multilingual classrooms of Zambia. This then calls for the different teacher trainers to embed their teaching strategies to meet the needs of the schools of today through curriculum reform. This will also influence teacher pedagogical practices in the schools.

6.6.2. Teacher based Continuing Professional Development (CPD)

Findings of the study proposed that the strategies that can enhance teacher competence in multilingual learning contexts in the primary schools of Livingstone district was the use of competent teachers to demonstrate how to teach multilingual learning in real classrooms during CPD. They explained that there were few well trained teachers who were able to teach hence they could train others hence these should be used to help others become better teachers as well. These findings are in line with Mwila et al. (2022) who proposed that teachers should use collaborative learning to enable teachers share the best practices with others based on their practical classroom experiences. The challenge with this approach may be constraints with both financial and time resources to attend the collaborative meetings but

is more useful. The findings are further supported by Phiri (2020) who argued that structured, well-coordinated, systematic and comprehensive CPD or institutionalized school based CPD coordinated and managed by head teachers, implemented by teachers and supported by teacher resource centers and policy makers at national level based on identified needs of the teachers themselves brings about positive change and learning. This leads to a decentralised approach which puts emphasis on the involvement of parents, teachers, and community leaders to participate in decision making that affect teachers in their schools. Teacher based CPD is a way of making teachers acquire the content which they have to use in the improvement of learner performance. Teachers work with other teachers at section, department, school or zone level to ensure a well knowledgeable teacher share the content with others so that they can teach the same content to the learners. The result of implementing this is that teachers tend to improve their teaching strategies at the same time and improve learner performance in the different school and zone as a whole. To the teachers, they are not left behind as they ensure that work together to make learners in the schools learn from the same teachers and acquire relevant knowledge. There is improved teacher performance in schools when knowledge is shared in schools.

6.6.3. Classroom demonstration based CPD

The findings proposed that the CPD meetings should not be amongst teachers. It was suggested that CPD meetings should be about a teacher teaching a classroom while others are learning from the lesson in a multilingual classroom. This will help the teachers from different schools within the zone to acquire the same teaching skills. This is what Lufungulo et al. (2021) called the transformative approach. They argue that transformative approaches, posit that for CPD to be effective, programs must be experiential, regular, ongoing, sustainable, supported by administrators, and informed and designed by teachers. These approaches also require the use of learning activities which help teachers attain transformational learning where they make “fundamental shifts in how they view themselves, and then willingly alter their beliefs and values about themselves and their practices. Transformative approach places the learners at the center of learning and helps them find their own inner voice and power thereby, feel empowered to effect social change. Classroom demonstrations indeed are a game changer and transformative because they make the teachers change their pedagogy to suit what is current in the field of specialisation. This then links the content teaching to the pedagogy and teachers become relevant in the literacy lessons which should be supported.

6.6.4. Multilingual Methodological based CPD

The other proposal was that of enhancing the use of multilingual teaching and learning methodologies which should help learners learn. It was established that teachers should be oriented on how to use multilingual practices like language mixing, code switching and translation among the many. This will help teachers practice in the CPD meetings and replicate the same knowledge in their classes. These findings are in tandem with Khaled (2024) who found that learners in bilingual programs generally achieve higher literacy in both languages compared to monolingual peers. The success varies based on teaching quality and available resources, but overall, bilingual education promotes better literacy and educational outcomes. Further, Mkandawire, Zuilkowski, Mwansa & Manchishi (2023) agree that teachers in multilingual classes used translanguaging, bilingual materials, remediation and reading interventions strategies to teach literacy among early graders. Further, parents, multilingual teachers, and bilingual learners were also used as resources in multilingual classes because they have different linguistic orientations. Not every university and college trains teachers on how to use multilingual pedagogical practices which they just have to use if they have to be relevant in the Zambian classrooms of today. Through CPD which is centred on methodologies, it should be appreciated that more teachers can learn how to use multilingual methodologies thereby improving their teaching and content delivery in the Zambian schools.

6.6.5. PLP training on integrated lesson teaching

It was also found that participants also recommended that there was need to make sure that the teachers are also trained regarding the teaching of PLP using the integrated lesson plan. It was proposed that the zonal insert coordinator should be tasked to train the teachers on the different ways of planning an integrated lesson plan for literacy in the primary schools. This will enable teachers to teach the same information in the Zambian primary schools. These findings can be linked to Tembo (2024) who mentioned that teachers had only received training in phonological awareness in workshops, teacher group meetings and school in-service teacher meetings. In addition, Luneta (2017) found that teachers are expected to demonstrate a standard level of skills acquisition of the teaching program, and this can only happen if the teachers are well trained. The training approach is acknowledged as an effective means of introducing new knowledge. However, taking into consideration the invisible relationship between teacher qualifications and learner achievements, the cost of training may be too high for teachers or other sponsors who are expected to bear both the direct costs and

indirect costs of the training. Retraining of teachers whilst in schools demonstrates the fact that teachers are not well trained whilst in colleges and universities hence this emphasis. The teacher training institutions should in this case ensure that teachers are trained to teach the teaching program which the ministry of education is running in schools so that they can directly go and teach instead of being retrained. This will also add to the teacher confidence in the Zambian schools since they will be able to teach what they understand and using the pedagogy which is relevant to the classrooms and schools.

These suggestions provide an understanding that teachers should be relevant and professional experts in the teaching literacy and language in the Zambian primary school. The foregoing discussion agrees with the expert theory places as it emphasises on the need for people, in this case teachers, to have mastery of the available knowledge and skills that they need teach learners (Ericsson, 1993). Through this theory, teachers should be adequately trained in both content and methodology for them to be effective teachers upon graduation from a teacher training institution. This theory argues that teacher competence or expertise have a positive effect on learner reading achievement. The supportive training through school based instructions and CPD can be enhanced and extended to everyone who is in the primary sector so that they can bridge the training gaps from the different colleges and universities where they were not well trained. This will enable them to become experts in teaching literacy and language in primary schools and provide relevant education. The implication of this is that teachers will contribute to effective learner achievement, and this will make teachers be recognised as achievers in the education cycles since they will be able to teach similar content with similar pedagogy. The policy direction should then consider lesson practice or classroom demonstration as CPD so that teachers can acquire the correct pedagogy to align the qualifications they hold.

6.7. Chapter Summary

This chapter examined the effect of teacher professional qualifications on literacy achievements among learners in multilingual learning environments within Livingstone District. The findings underscored significant variations in literacy skills such as phonemic awareness, phonics, fluency, vocabulary, and comprehension across classes taught by teachers with different qualifications. Moreover, the analysis highlighted how varying levels of professional qualifications influence teachers' pedagogical content knowledge and their ability to manage the complexities of multilingual classrooms. Challenges encountered by

teachers in these contexts were also explored, emphasising issues that hinder effective teaching and learning. Based on insights from participating teachers, strategies to enhance teacher competence were identified. These strategies are meant to improve instructional practices and subsequently enhance learner performance in multilingual settings. In the following chapter, a conclusion of the study findings and recommendations aimed at enhancing teacher effectiveness and improving learner reading achievement in multilingual educational settings.

CHAPTER SEVEN

CONCLUSION AND RECOMMENDATIONS

7.1 Overview

This chapter presents the conclusions and recommendations based on the findings of the study on the effect of formal teacher competence on the reading achievement of learners in Livingstone District, Zambia. It synthesises the key insights drawn from the research and provides actionable recommendations for enhancing teacher competence, particularly in multilingual learning contexts. Teacher competence in this study was contextualised to mean teacher qualification and pedagogical content knowledge. Additionally, the chapter identifies potential areas for future research, offering suggestions that could contribute to further academic discourse and inform educational practices moving forward.

7.2 Conclusions

The findings of this study indicate that the research objectives were effectively achieved, and the research questions were satisfactorily addressed. Based on these results, the following conclusions can be drawn:

7.2.1. What is the effect of teacher professional qualifications on learners' reading achievement in multilingual learning contexts of Livingstone District?

The findings of this study indicate that learners taught by the teacher with a Bachelor's in Primary Education achieved the highest post test scores (Cohen's $d = 1.33$), followed by those instructed by the teacher with a Primary Teacher's Diploma only (Cohen's $d = 0.85$) while the lowest performance was recorded by the class taught by the teacher with a Bachelor's Degree in English Language and History (Cohen's $d = 0.84$). These results suggest that specialised training in primary education, particularly at the bachelor's level, provides teachers with more superior pedagogical competences necessary for effective literacy instruction in multilingual learning contexts. The slightly lower performance of the teacher with only a Primary Teacher's Diploma only may indicate the need for further qualifications to enhance instructional strategies beyond the diploma level. Additionally, the lowest achievement levels in the class taught by the teacher with a Bachelor's in English Language and History suggest that qualifications designed for secondary education do not sufficiently equip teachers with the skills needed for foundational literacy instruction at the primary level. Overall, these

findings underscore the critical importance of aligning teacher qualifications with the specific instructional demands of primary education to enhance learner outcomes in multilingual settings.

7.2.2. How teachers of different levels of qualifications understood and taught literacy and language in primary schools of Livingstone District?

While some teachers demonstrated a correct understanding and possessed a strong command of pedagogical content knowledge in literacy and language, others did not. The study revealed that some teachers effectively implemented pedagogical recommendations by using diverse instructional strategies such as storytelling, picture discussions, songs, and picture reading. These approaches not only aligned with best practices but also highlighted their ability to connect lesson content with appropriate teaching materials and engage learners in meaningful vocabulary-building activities. Furthermore, multilingualism played a crucial role in classroom interactions, with teachers embracing learners' use of multiple languages, including Silozi, Icibemba, Cinyanja, Chitonga, and English. The incorporation of translanguaging strategies, such as code-mixing and concept translation fostered an inclusive learning environment that supported language development. Teachers also employed various methods to conclude lessons effectively, including content revision, questioning, and songs, ensuring reinforcement of key concepts. However, despite these strengths, notable gaps emerged in assessing comprehension and fluency. While vocabulary and phonemic awareness were well addressed, comprehension and fluency received less emphasis, highlighting an area requiring improvement. These findings underscore the need for continuous professional development to equip teachers with the skills necessary for comprehensive literacy instruction, particularly in multilingual contexts.

7.2.3 Challenges teachers of different levels of qualifications face in managing multilingual learning contexts in primary schools of Livingstone District

Teachers in Livingstone District face multiple challenges in teaching learners from multilingual learning contexts, including lack of teaching materials, language barriers, over-enrolment, and negative parental attitudes towards local languages. Irregular learner attendance hinders literacy progress, while inadequate multilingual resources compromise effective teaching. Language barriers arise when the language of instruction differs from learners' home languages, making comprehension difficult. Overcrowded classrooms, exacerbated by free education policies which limited teachers' ability to offer individualised

attention. Additionally, some parents devalued local languages affecting learners' attitudes toward literacy instruction in local languages.

7.2.4 Strategies to enhance teacher competence in multilingual learning contexts in the primary schools of Livingstone district

The study proposed key strategies to enhance teacher competence in Zambia's multilingual primary schools by addressing training gaps and strengthening literacy instruction through professional development. It recommended integrating multilingual pedagogies into teacher training, adopting teacher-led CPD programs, and using classroom demonstrations to link theory to practice. CPD initiatives focused on translanguaging, code-switching, and integrated lesson plans were also suggested.

7.3 Contribution to knowledge

The study has contributed to the body of knowledge in the following areas being pedagogical practice, classroom practice, body of knowledge and current language practices in Zambia. Firstly, the study significantly contributes to the development of teaching practices in multilingual contexts. It emphasises the importance of aligning teacher qualifications with classroom needs, highlighting that specialised training in primary education and multilingual pedagogies enhances teaching effectiveness. The integration of strategies such as storytelling, songs, and translanguaging into teaching practices provides a framework for effective literacy instruction in diverse linguistic settings. Secondly, the study contributes that practical approaches to literacy instruction promote learner engagement and skill acquisition. Teachers' use of vocabulary-building activities, phonemic awareness exercises, and multilingual strategies like code-switching and concept translation brings about the importance of inclusive and hands on teaching methods. The study further identifies gaps in assessing comprehension and fluency, recommending continuous professional development to enhance reading instruction. In addition, the study adds to the academic discourse on teacher competence and its influence on literacy outcomes, particularly in multilingual learning environments. By linking teacher qualifications to learner achievements, it provides evidence for the impact of pedagogical content knowledge on educational outcomes. Theoretically, the study contributes to language orientation theory by advocating for multilingual pedagogies that embrace translanguaging which enables teachers to use their content knowledge and apply their pedagogical knowledge to demonstrate their qualification application to the delivery of lessons in class. To address these challenges, it was suggested

that improving teacher training in content and methodology could significantly enhance literacy teaching in Zambian primary schools.

7.4 Recommendations

In light of the findings and conclusions of the study, the following recommendations are being made:

a) A revision of teacher training programs to ensure that teachers are well prepared to effectively manage multilingual classrooms. In their current form, teacher training modules lack clear guidance on how student teachers can handle learners from multilingual learning contexts such as those of Livingstone District. To achieve this, training modules should be comprehensive and include multilingual pedagogies. These modules should cover strategies such as translanguaging by code-switching, code mixing, use of graphic organisers and sandwiching. By integrating these approaches, teachers may be better equipped with the necessary skills to address the linguistic diversity in their classrooms enabling them to foster an inclusive and supportive learning environment for all learners.

b) To enhance literacy instruction, there is need to strengthen Continuing Professional Development (CPD) through tailored initiatives. These initiatives could include classroom demonstrations, collaborative workshops, and mentorship opportunities, all aimed at improving teachers' instructional strategies. A particular focus should be placed on foundational literacy training, ensuring that teachers are well-equipped to assess and teach literacy in multilingual contexts effectively.

c) There is need to develop and distribute multilingual teaching resources to enhance educational outcomes, especially in multilingual settings. It involves creating context-specific materials that are culturally relevant and linguistically appropriate for the learners. These resources can include books, pictures, and phonics materials tailored to the local languages and cultural contexts. To ensure that every learner has access to these materials, it is necessary for governments and local communities to increase their investment in educational resources.

d) To address classroom overcrowding caused by the free education policy, two key strategies are recommended. First, prioritize the construction of additional classrooms and the recruitment of qualified teachers to ensure adequate learning spaces and a favorable learner-

to-teacher ratio. Second, where feasible, implement a dual-session system with morning and afternoon classes to reduce congestion and enhance learning outcomes.

e) It is recommended that Government employ strategic teacher deployment to enhance the quality of education, particularly in multilingual contexts. Teachers should be assigned to roles that align with their qualifications and expertise, ensuring that those with specific training in primary education, especially for lower grades, are prioritised. This approach ensures that teachers are well-equipped to meet the unique needs of learners. Additionally, it is important to provide support for teachers to advance their qualifications and skills. This can be achieved through opportunities such as study leave, scholarships, and other incentives, which encourage professional growth and contribute to the overall improvement of teaching standards.

f) Policy reforms are crucial in ensuring the effective use of zonal languages in schools, as they promote inclusivity and improve learning outcomes. To support this initiative, adequate resources must be allocated to schools, including teaching materials and language-specific educational tools that cater to the linguistic diversity of learners. Teacher training plays a pivotal role in equipping teachers with the necessary skills to teach in multiple languages effectively. Training programs should focus on language proficiency, cultural sensitivity, and strategies for managing multilingual classrooms.

7.5 Suggestions for further research

Based on the findings of this study, the following areas of research are recommended for future investigation:

a) While this study examined the effect of professional qualifications on learner reading achievement in multilingual contexts, future research could investigate *the impact of multilingual pedagogies on literacy achievement* in such contexts. This would provide insights into the efficacy of specific teaching approaches tailored to multilingual settings.

b) This study focused on Formal teacher competence, contextualised as professional qualification and pedagogical content knowledge and its effect on learner reading achievement. Future studies should consider exploring *the relationship between learners' language backgrounds and their reading achievement* in multilingual learning contexts. Such

research could help uncover how linguistic diversity among learners interacts with literacy achievement.

c) Further research could examine *the socio-cultural dynamics and attitudes toward local languages in education and their implications for the implementation of language policies in Zambia*. This would help address the role of societal and cultural factors in shaping language in education policies and practices.

7.6 Chapter Summary

This chapter provides a comprehensive conclusion to the study on the effect of formal teacher competence on learner reading achievement in Livingstone District, Zambia. It emphasises the critical role of teacher qualifications, particularly in multilingual settings, in influencing learner outcomes. The study highlights significant differences in reading achievement among learners taught by teachers with varying qualifications, with those holding Bachelor's degrees in Primary Education and Primary Teacher Diplomas performing more effectively. The chapter identifies key challenges faced by teachers, including absenteeism, resource shortages, language barriers, and over enrolment, which hinder effective teaching in multilingual classrooms. To address these issues, it recommends tailored training programs, strengthened professional development, and the development of multilingual teaching resources. Finally, the chapter underscores the study's contribution to advancing pedagogical practices, promoting inclusive literacy instruction, and informing policy reforms. It also suggests areas for future research, including the impact of multilingual pedagogies, the interaction between learners' language backgrounds and reading achievement, and socio-cultural factors affecting language policies in education.

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APPEDENCES
PRETEST /POSTTEST LITERACY RESEARCH INSTRUMENT
FOR GRADE ONE (1) LEARNERS

BACKGROUND INFORMATION

My name is Moyo Stephen pursuing a Doctor of Philosophy (PhD) in Applied Linguistics at the University of Zambia. I am conducting a study entitled *‘Formal Teacher Competence and its Effect on the Reading Achievement of Learners in Multilingual Learning Contexts of Livingstone District in Zambia.’* This test has been prepared to be administered among grade one learners to help gather the desired data for the study. The test is based on the learner’s **phonemic awareness, phonics, fluency, vocabulary and comprehension.** Learners will be tested individually on the different aspects of literacy. The target language for testing learners will be Chitonga. However, translanguaging will be applied in cases where learners cannot use the target language. The test will be administered twice (**Pre-Test** in February, 2024 & **Posttest** in November, 2024) to the same group of learners. Each learner will be given **30 minutes** to respond to all the questions in this paper. You are assured that the outcomes of this test will be treated as confidential and will be limited for academic purposes only. Identity of learners taking the test will not be required.

SECTION A: LEARNER INFORMATION

- a) **Pupil identification label []**

- b) **Age []**

- c) **Sex []**

- d) **Home language []**

- e) **Language of instruction Chitonga []**

- e) **Grade []**

SECTION B: PHONEMIC AWARENESS [10 MARKS]

Instruction: The researcher will read the following sentences for the learners to listen attentively in order to identify the **most frequent** speech sound in each sentence.

Sikubwezelela twaambo ulabala twaambo tutobela kutegwa sicikolo aswiile akwaamba kazuzumina kaliinduluka mutwaambo twapegwa.

Mukonzyanyo: Mutinta musimbi mubotu.

m

Pre-Test	Posttest
----------	----------

- a) Kana kabotu kaleenda
- b) **K**ana **k**akama mukupa
- c) Ndalomba maluba aali mulubuwa
- d) Malala ulaa mala malamfu
- e) Wabona nau no kabaneene

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<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

[5 Marks]

Instruction: Listen attentively to the following words and identify the **odd one out**.

Koswiilila kumabala aaya mpoona waambe **bbala liimpene**.

Mukonzyanyo: mala, puta, pala, piluka

mala

Pre-Test	Posttest
----------	----------

- a) bulo , lila , **mate** , leta , lima
- b) bala, buka, bikka, **cela**, bila
- c) **nana**, teka, tula, luta, leta
- d) bona, ona, nuna, nana, **bulo**
- e) mukupa,**nyona**, piluka, pona

<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
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[5Marks]

SECTION C: PHONICS [35 Marks]

Instruction: The researcher to ask the learners to read the following sounds and syllables.

Sikubwezelela twaambo ulaambila sicikolo kuti aambe tuvwuumina a tubela twamabala twapegwa

Guide for the researcher: Tick (☑) to show ability and put (x) to show inability

a) Weekly schedules – Chitonga, Term 1 [15 Marks]

Pre-Test					
I	a	E	u	O	Total
Posttest					
I	a	E	u	O	Total

Pre-Test					
N	y	J	p	F	Total
Posttest					
N	y	J	p	F	Total

Pre-Test					
De	mu	Si	zo	la	Total
Posttest					
De	mu	Si	zo	la	Total

c) Weekly schedules - Chitonga, Term 2 [10 Marks]

Pre-Test					
C	tw	Nk	kk	nd	Total
Posttest					
C	tw	Nk	kk	nd	Total

Pre-Test					
ng'a	nku	Nte	njo	cci	Total
Posttest					
ng'a	nku	Nte	njo	cci	Total

a) Weekly schedules – Chitonga, Term 3 [10 Marks]

Pre-Test					
Sy	Py	Vw	ngw	Mbw	Total
Posttest					
Sy	Py	Vw	ngw	Mbw	Total

Pre-Test					
Swa	Nkwe	Ntwi	ndyo	Pyu	Total
Posttest					
Swa	Nkwe	Ntwi	ndyo	Pyu	Total

SECTION D: FLUENCY -RUNNING RECORD [100%]

INSTRUCTIONS:

a) The researcher will instruct the learners to read this story loudly.

The story is about a hen, its chicks and an eagle

Try to read each word. You can use your finger to keep your place.

Be sure to do your best reading

Sikubwezelela twaambo ulaambila sicikolo kuti abale kaano katobela.

Kaano kajatikizya nkuku, twana twanjiyo a sikwaze.

Sikubwezelela twaambo ulaambila sicikolo kwaabala mabala onse. Sicikolo ulaangulukide kutondeka mabala kubelesya kanwe nabala.

SIKWAZE A NKUKU NSEKE A TWANA TWANJIYO

Kwakali muyuni wiiwa kuti sikwaze a nkuku nseke a twana twanjiyo.	11
Aaba bayuni bakali kumwana kapati.	16
Bumwi buzuba sikwaze wakalya kana kankuku nseke.	23
Kaambo kaceco, nkuku nseke a sikwaze bakalwana kusikila sikazwe wakauluka kutija.	34
Kuzwa buzuba oobu, nkuku nseke a sikwaze mbaasinkondonyina.	42

Grading Scale for Fluency

Total number of words	42
------------------------------	-----------

Pre-Test			
Number of Words Attempted:	Number of Errors:	Number of Words Read Correctly:	%
Posttest			
Number of Words Attempted:	Number of Errors:	Number of Words Read Correctly:	%

SECTION D: VOCABULARY [5 Marks]

Test Score	Pre-Test	Posttest

INSTRUCTION: Read out the following words loudly

Bala mabala aatobela

1. nseke
2. sikwaze
3. kumwana
4. sinkondonyina
5. kulwana

Pre-Test	Posttest

INSTRUCTION: The researcher will instruct the learners to use the following words in meaningful sentences of their own choice

Sicikolo abambe twaambo kubelesya mabala aatobela.

Guide for the researcher: Tick (☑) to show ability and put (x) to show inability

Mukonzyanyo: Bbuku: Sicikolo ulalemba mu**bbuku**

Word	Pre-Test		Posttest	
	Able	Not able	Able	Not able
1. nseke				
2. sikwaze				
3. kumvwana				
4. sinkondonyina				
5. kulwana				

SECTION E. LISTENING COMPREHENSION [10 marks]

Test Score	Pre-Test	Posttest

Instructions: The researcher will instruct the learners to attentively listen to the following story and answer the questions that follow orally

Sicikolo aswiilile kukaano akuvwiila mibuzyo iitobela.

SIKWAZE A NKUKU NSEKE A TWANA TWANJIYO

Kwakali muyuni wiitwa kuti sikwaze a nkuku nseke a twana twanjiyo.

Aaba bayuni bakali kumvwana kapati.

Bumwi buzuba sikwaze wakalya kana kankuku nseke.

Nkaambo kaceeco, nkuku nseke a sikwaze bakalwana kusikila sikazwe wakauluka kutija.

Kuzwa buzuba oobu, nkuku nseke a sikwaze mbaasinkondonyina.

Questions

1. Mbanyama nzi baambwa mucibalo? [3]
2. Kopandulula buponi mbobakali kuona banyama aaba. [1]
3. Muyuni nzi uuvwubwa akati kabanyama baambwa mucibalo. [2]
4. Ncinzi cakapa kuti bayuni baambwa mucibalo baleke kumvwana?[2]
5. Ino nookali nduwe ookalidwa bana nookacita buti?[2]

Pre-Test	Posttest

END OF TEST

QUESTIONNAIRE FOR TEACHERS

BIO-DATA Background information

My name is Moyo Stephen pursuing a Doctor of Philosophy (PhD) in Applied Linguistics at the University of Zambia. I am conducting a study entitled *‘Formal Teacher Competence and its Effect on the Reading Achievement of Learners in Multilingual Learning Contexts of Livingstone District in Zambia.’* This questionnaire has been prepared to be administered to help appreciate the understanding of teachers of the Primary Literacy Program (PLP). The questionnaire covers questions based on the content and pedagogical knowledge of teachers in PLP. You will be interviewed individually. You are assured that the outcomes of this interview will be treated as confidential and will be limited for academic purposes only. Your identity will not be required.

SECTION A: PERSONAL INFORMATION

a) Teacher Identification (e.g. X, Y or Z)

b) Sex: []

c) Years of Experience:

Ranges of years	0 – 5	6 - 10	11 - 15	16 and above
Cross (x) the appropriate range				

d) Initial Qualification []

e) Highest qualification: []

f) Special training in Literacy:

Type of training/level of training	Cross (x) where necessary
Pre-service training (College level)	
Continuous Professional Development (CPD)	
Zonal Training	
Teacher Group Meeting (TGM)	
In-house workshops	
Others; specify	

SECTION B: CONTENT KNOWLEDGE

1. What do the letters PLP stand for?

2. State the focus of PLP

3. State the five (5) principles of PLP.

.....
.....
.....

4. What are pre-reading skills?

.....

5. Cite any one (1) example of pre-reading skills.

.....

6. Explain what each of the following key competences is:

a) Phonemic Awareness

.....

b) Phonics

.....

c) Fluency

.....

d) Vocabulary

.....

e) Comprehension

.....

7. Mention the integrated skills in a literacy lesson.

.....

8. Indicate the weeks that are set aside for formal assessment in PLP.

.....

9. What is the total number of phonemes (*speech sound*) that are expected to be taught in a week under PLP?

10. Briefly explain what is expected to happen on day five (5) of each week in PLP.

.....

SECTION B: PEDAGOGICAL KNOWLEDGE

11. Suggest any two (2) ways of introducing a literacy lesson.

.....
.....

12. Explain any two (2) activities that you may expose the learners to under each of the following:

a) Phonemic Awareness

.....
.....

b) Phonics

.....
.....

c) Fluency

.....
.....

d) Vocabulary

.....
.....

e) Comprehension

.....
.....

13) Suggest any two (2) ways of concluding a literacy lesson.

a)

b)

14. Provide a brief narration of how each of the following key competence would be assessed:

a) Phonemic Awareness

.....

b) Phonics

.....

c) Fluency

.....

d) Vocabulary

.....

e) Comprehension

.....

15. Mention any four (4) methods that can be used to teach initial literacy and briefly explain how each one of them would be applied.

a)

b)

c)

d)

SECTION C: GENERAL QUESTIONS

16. What are some of the challenges do teachers face in managing multilingual learning contexts?

.....

17. What strategies do you think can be proposed to enhance your competence in handling multilingual learning contexts?

.....

End of Questionnaire

OBSERVATION SHEET FOR TEACHERS

Background information

My name is Moyo Stephen pursuing a Doctor of Philosophy (PhD) in Applied Linguistics at the University of Zambia. I am conducting a study entitled *‘Formal Teacher Competence and its Effect on the Reading Achievement of Learners in Multilingual Learning Contexts of Livingstone District in Zambia.’* This observation sheet has been prepared to help the researcher appreciate your competences in literacy teaching (PLP). The observation sheet covers elements related to all the key competences of the PLP program. You will be observed individually during the literacy hour. There will be three observation sessions for each teacher. (Term 1, 2 & 3) of the 2024 school calendar. You are assured that the outcomes of this observation will be treated as confidential and will be limited for academic purposes only. Your identity will not be required.

SECTION A: Teacher Identification (e.g. X, Y or Z)

a) Sex: []

b) Years of Experience:

Ranges of years	0 – 5	6 – 10	11 - 15	16 and above
Cross (x) against the appropriate age range				

c) Initial Qualification []

d) Highest qualification: []

e) Special training in Literacy:

Type of training/level of training	Cross (x) where necessary
Pre-service training	
Continuous Professional Development (CPD)	
Zonal Training	
Teacher Group Meeting (TGM)	
In-house workshops	
Others; specify	

SECTION B: PLANNING

Relevant learning outcomes (catering for the key competences and the integrated skill)	
Correct structure of the lesson plan	
Activities planned to enhance the various literacy skills and key competences	
Planned to use various resources to teach different key competences and skills.	

SECTION C: IMPLEMENTATION

1. *Introduction* (Relevant, Meaningful & Motivating)

.....
.....

2. *Phonemic awareness* (Introduction of the phoneme of the day, one or two relevant activities)

.....
.....

3. *Phonics* (*Revision* of the phoneme for the previous lesson, writing the letter for the phoneme of the day, engaging learners in other relevant activities)

.....
.....

4. *Fluency* (Learners practice decoding syllables at random, Blend syllables to form meaningful and nonsense words learners practice to read decodable text ... words, sentences, stories, learners do other activities to enhance fluency)

.....
.....

5. *Vocabulary* -Learners get engaged in activities tailored towards the building of vocabulary (discuss meanings of words, using words in sentences, acting out words etc.)

.....
.....

6. *Writing* (*Modelling* of good handwriting, appropriate writing activities)

.....
.....
.....
.....

7. **Comprehension** (*Learners get engaged in activities to strengthen comprehension skills*)

.....
.....

8. **Conclusion** (*Relevant, Meaningful*)

.....
.....

SECTION D: OTHER OBSERVATIONS

9. Competence in the use of Medium of Instruction (MoI)

.....
.....

10. Use of correct terminologies in literacy

.....
.....

11. Correct activities given for each competence

.....
.....

12. Application of MTB-MLE strategies (translanguaging, sandwiching, graphic organizers)

.....
.....

13. Relevance and correct use of Teaching and Learning Aids (engaging, multi-sensory, enough, big enough etc)

14. Required content knowledge (sounding and formation of letters)

.....
.....

15. Application of various methods

.....
.....

SECTION E: GENERAL OBSERVATIONS

.....
.....
.....

.....
.....

SECTION F: RECOMMENDATIONS

.....
.....
.....

End of the Observation sheet

Approval of study



THE UNIVERSITY OF ZAMBIA DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

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APPROVAL OF STUDY

IORG No. 0005376
HSSREC IRB No. 00006464
REF NO. HSSREC-2024-DEC-046

3rd February, 2025

Mr. Stephen Moyo
The University of Zambia
P.O. Box 32379
LUSAKA

Dear Mr. Moyo

RE: "FORMAL TEACHER COMPETENCE AND ITS EFFECT ON PUPIL READING ACHIEVEMENT IN MULTILINGUAL LEARNING CONTEXTS OF LIVINGSTONE DISTRICT IN ZAMBIA"

Reference is made to your submission of the protocol captioned above. The HSSREC resolved to approve this study and your participation as Principal Investigator for a period of one year.

REVIEW TYPE	ORDINARY REVIEW	APPROVAL NO. HSSREC:- 2024-DEC-046
Approval and Expiry Date	Approval Date: 3 rd February, 2025	Expiry Date: 2 nd February, 2026
Protocol Version and Date	Version - Nil.	2 nd February, 2026
Information Sheet, Consent Forms and Dates	<input type="checkbox"/> English.	To be provided
Consent form ID and Date	Version - Nil	To be provided
Recruitment Materials	Nil	Nil
Other Study Documents	Questionnaire.	
Number of Participants Approved for Study		

CONDITIONS OF APPROVAL

- No participant may be involved in any study procedure prior to the study approval or after the expiration date.
- All unanticipated or Serious Adverse Events (SAEs) must be reported to HSSREC within 5 days.
- All protocol modifications must be approved by HSSREC prior to implementation unless they are intended to reduce risk (but must still be reported for approval). Modifications will include any change of investigator/s or site address.
- All protocol deviations must be reported to HSSREC within 5 working days.
- All recruitment materials must be approved by HSSREC prior to being used.
- Principal investigators are responsible for initiating Continuing Review proceedings. HSSREC will only approve a study for a period of 12 months.
- It is the responsibility of the PI to renew his/her ethics approval through a renewal application to HSSREC.
- Where the PI desires to extend the study after expiry of the study period, documents for study extension must be received by HSSREC at least 30 days before the expiry date. This is for the purpose of facilitating the review process. Documents received within 30 days after expiry will be labelled "late submissions" and will incur a penalty fee of K500.00. No study shall be renewed whose documents are submitted for renewal 30 days after expiry of the certificate.
- Every 6 (six) months a progress report form supplied by The University of Zambia Humanities and Social Sciences Research Ethics Committee as an IRB must be filled in and submitted to us. There is a penalty of K500.00 for failure to submit the report.
- When closing a project, the PI is responsible for notifying, in writing or using the Research Ethics and Management Online (REMO), both HSSREC and the National Health Research Authority (NHRA) when ethics certification is no longer required for a project.
- In order to close an approved study, a Closing Report must be submitted in writing or through the REMO system. A Closing Report should be filed when data collection has ended and the study team will no longer be using human participants or animals or secondary data or have any direct or indirect contact with the research participants or animals for the study.
- Filing a closing report (rather than just letting your approval lapse) is important as it assists HSSREC in efficiently tracking and reporting on projects. Note that some

funding agencies and sponsors require a notice of closure from the IRB which had approved the study and can only be generated after the Closing Report has been filed.

- A reprint of this letter shall be done at a fee.
- All protocol modifications must be approved by HSSREC by way of an application for an amendment prior to implementation unless they are intended to reduce risk (but must still be reported for approval). Modifications will include any change of investigator/s or site address or methodology and methods. Many modifications entail minimal risk adjustments to a protocol and/or consent form and can be made on an Expedited basis (via the IRB Chair). Some examples are: format changes, correcting spelling errors, adding key personnel, minor changes to questionnaires, recruiting and changes, and so forth. Other, more substantive changes, especially those that may alter the risk-benefit ratio, may require Full Board review. In all cases, except where noted above regarding subject safety, any changes to any protocol document or procedure must first be approved by HSSREC before they can be implemented.

Should you have any questions regarding anything indicated in this letter, please do not hesitate to get in touch with us at the above indicated address.

On behalf of HSSREC, we would like to wish you all the success as you carry out your study.

Yours faithfully,

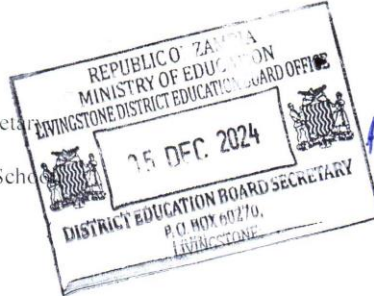


DR. J. I. Ziwa
CHAIRPERSON
THE UNIVERSITY OF ZAMBIA HUMANITIES AND
SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE - IRB

cc: Director, Directorate of Research, Innovation and Development
Assistant Director (Research), Directorate of Research, Innovation and Development
Assistant Registrar (Research), Directorate of Research, Innovation and Development

Request letter

30th November, 2024
The District Education Board Secretary
Att: Head Teacher,
Mulwani Primary and Secondary School
Ministry of Education
P.O Box 270
Livingstone.



Approved
DEBS

Dear Sir / Madam,

RE: REQUEST TO CONDUCT A STUDY IN YOUR DISTRICT

I am writing requesting for permission to conduct a research study at Mulwani Primary and Secondary School. I am a graduate student at the University of Zambia where I am pursuing the Doctor of Philosophy (PhD) in Applied Linguistics. My study is entitled '*Formal Teacher Competence and its Effect on learner Reading Achievement in Multilingual Learning Contexts of Livingstone District in Zambia*'.

I hope you will allow me engage the grade one teachers and learners at Mulwani Primary and Secondary School. Participants who will be sampled for the study will be given consent forms to sign and return to me at the beginning of the survey.

The results of the survey and individual test results for the learners will be confidential and anonymous. The names of the teachers and learners will not be disclosed and all identifiers will be kept confidential.

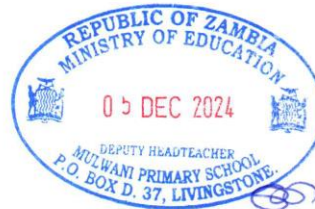
I look forward to your favorable response to my request.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Moyo, S.', written over a horizontal line.

Moyo, S

Mobile: 0977 463 526



Information sheet



HSSREC FORM 1b

**THE UNIVERSITY OF ZAMBIA
DIRECTORATE OF RESEARCH, INNOVATION AND DEVELOPMENT
HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE**

Telephone: +260-211-290258/293937

P O Box 32379

Fax: +260-211-290258/293937

Lusaka, Zambia

E-mail drgs@unza.zm

PARTICIPANT INFORMATION SHEET

(This template is for research interventions that use questionnaires, in-depth interviews or focus group discussions)

Notes to Researchers:

1. Please note that this is a template developed by HSSREC to assist the Principal Investigator in the design of their informed consent forms (ICFs). It is important that Principal Investigators adapt their own ICFs to the outline and requirements of their particular study by replacing words in red.
 2. The informed consent form consists of two parts: the information sheet and the consent certificate.
 3. Do not be concerned by the length of this template. It is long only because it contains guidance and explanations which are for you and which you will not include in the informed consent forms that you develop and provide to participants in your research.
 4. This template includes examples of key questions that may be asked at the end of each section that could ensure the understanding of the information being provided, especially if the research study is complex. These are just examples, and suggestions, and the investigators will have to modify the questions depending upon their study.
-

Informed Consent Form for: This informed consent form is for practicing grade one class teachers at the selected primary school in Livingstone District who will participate in a research with the topic 'Formal Teacher Competence and its Effect on Pupil Reading Achievement in Multilingual Learning Contexts of Livingstone District in Zambia.

Name of Principle Investigator: Moyo Stephen

Name of Organization: University of Zambia

Name of Sponsor: Self-Sponsorship

This Informed Consent Form has two parts:

- Information Sheet (to share information about the study with you)
- Certificate of Consent (for signatures if you choose to participate)

You will be given a copy of the full Informed Consent Form

Part I: Information Sheet

Introduction

I am Moyo Stephen a PhD Student at the University of Zambia. I work for the Ministry of Education under the Directorate of Curriculum Development. I am carrying out a research on Formal Teacher Competences and its Effect on Pupil Reading Achievement in Multilingual Learning Contexts of Livingstone District in Zambia. I am going to give you information and invite you to be part of this research. You do not have to decide today whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research. This consent form may contain words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later, you can ask them of me or of another researcher.

Teacher competences are key for any successful learning among learners. Contextually, teacher competences in this study have been identified as Teacher professional qualification and pedagogical content knowledge. The purpose of this study is to explore how Formal Teacher Competence affects the reading achievement of grade one learners in multilingual learning contexts such as Livingstone district of Zambia. Further, the study seeks to identify challenges faced by teachers in multilingual classrooms. Lastly the study will propose strategies for enhancing teacher competence in multilingual learning contexts to improve learner reading achievement.

Type of Research Intervention

This research will involve your participation in a structured interview and lesson observations. Learners will be assessed on their learning achievement encompassing the five core skills in literacy; phonemic awareness, phonics, fluency, vocabulary and listening comprehension

Participant Selection

You are being invited to take part in this research because I feel that your experience as a grade one teacher can contribute much to my understanding and knowledge of how formal teacher competence can affect the reading achievement of grade one learners.

Voluntary Participation

Your participation in this research is entirely voluntary. You have a choice either to participate or not. Your choice not to participate will have no negative consequences on you.

Procedures

A. Provide a brief introduction to the format of the research study.

I am asking you to help me learn more about how Formal Teacher Competence affect the reading Achievement of learners. I am inviting you to take part in this research project. If you accept, you will be observed in your lesson presentation and you will be interviewed on practices related to literacy instruction.

During interviews, you will be required to fill in a survey questionnaire which will be provided and collected by the researcher. If you do not wish to answer any of the questions included in the survey, you may skip them and move on to the next question.

Duration

The research takes place over one year. During that time, I will visit you three times for classroom observations. Further, each interview session will last for about forty five minutes. Testing of each learner in the various aspects of literacy learning will be about thirty minutes.

Uses of information

The information I shall get from you will be used by the Ministry of Education to help teachers to come up with the best practices of literacy instruction in Multi Lingual learning contexts.

Risks

There is a risk that you may share some personal or confidential information by chance, or that you may feel uncomfortable talking about some of the topics. However, I do not wish for this to happen. You do not have to answer any question or take part in the discussion or interview if you feel the questions are too personal or if talking about them makes you uncomfortable.

Benefits

There will be no direct benefit to you, but your participation is likely to help me find out more about how teacher competences affect the reading achievement among learners.

Reimbursements

State clearly what you will provide the participants with as a result of their participation. WHO does not encourage incentives beyond reimbursements for expenses incurred as a result of participation in the research. These may include, for example, travel costs and reimbursement for time lost. The amount should be determined within the host country context.

Confidentiality

The research being done at the school may draw attention and if you participate you may be asked questions by other people in school. I will not be sharing information about you to anyone outside of the research team. The information that I shall collect from this research project will be kept private. Any information about you will have a letter on it instead of your name. Only the researcher will know what your letter is and I will lock that information up with a lock and key. It will not be shared with or given to anyone.

Sharing the Results

Nothing that you tell me today will be shared with anybody outside the research team, and nothing will be attributed to you by name. The knowledge that I shall get from this research will be shared with you and your school before it is made widely available to the public. Each participant will receive a summary of the results. There will also be small meetings in school and these will be announced. Following the meetings, I shall publish the results so that other interested people may learn from the research.

Right to Refuse or Withdraw

You do not have to take part in this research if you do not wish to do so, and choosing to participate will not affect your job or job-related evaluations in any way. You may stop participating in the discussions and interview sessions at any time that you wish without your job being affected. I will give you an opportunity at the end of the interview/discussion to review your remarks.

Question to elucidate understanding: This question must be posed to the participant.

Do you know that you do not have to take part in this study if you do not wish to? You can say No if you wish to? Do you know that you can ask me questions later, if you wish to? Do you know that I have given the contact details of the person who can give you more information about the study? You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Who to Contact

If you have any questions, you can ask them now or later. If you wish to ask questions later, you may contact any

of the following: Dr. Judith Ilubala Ziwa Acting Chairperson, Humanities and Social Sciences, Research Ethics Committee,

University of Zambia
P O Box 32379
LUSAKA
OR

The Director, Directorate of Research and Graduate Studies

University of Zambia
P O Box 32379
LUSAKA

This proposal or protocol has been reviewed and approved by HSSREC which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the IRB, contact:

Dr. Judith Ilubala Ziwa Acting Chairperson, Humanities and Social Sciences, Research Ethics Committee,

University of Zambia
P O Box 32379
LUSAKA
OR

The Director, Directorate of Research and Graduate Studies

University of Zambia
P O Box 32379
LUSAKA

State if also it has been reviewed by a primary ethics committee by indicating an organization which may have reviewed the proposal. This primary ethics committee may be another university's ethics committee or a REC or IRB in another country) or an organization which is funding/sponsoring/supporting the study. Having granted ethical approval by a primary ethics committee in another country does not preclude obtaining ethics approval in a study country.

"Approval to conduct this research has been provided by the University of Zambia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, if you are/ or any person is not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the HSSREC on the address

sated above.

All research participants are entitled to retain a copy of any Participant Information Form and/or Participant Consent Form relating to this research project."

Part II: Certificate of Informed Consent

This section must be written in the first person. It should include a few brief statements about the research and be followed by a statement similar the one in bold below. If the participant is illiterate but gives oral consent, a witness must sign. A researcher or the person going over the informed consent must sign each consent. Because the certificate is an integral part of the informed consent and not a stand-alone document, the layout or design of the form should reflect this. The certificate of consent should avoid statements that have "I understand...." phrases. The understanding should perhaps be better tested through targeted questions during the reading of the information sheet (some examples of questions are given above), or through the questions being asked at the end of the reading of the information sheet, if the potential participant is reading the information sheet him/herself.

I have been invited to participate in a research on Formal Teacher Competences and its Effects on the Reading Achievement of Learners in a Multi Lingual Learning Context of Livingstone District of Zambia.

(This section is mandatory)

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.

Print Name of Participant G.K. Grade 1 Teacher

Signature of Participant 

Date 05/12/2024

Day/month/year

Statement by the researcher/person taking consent

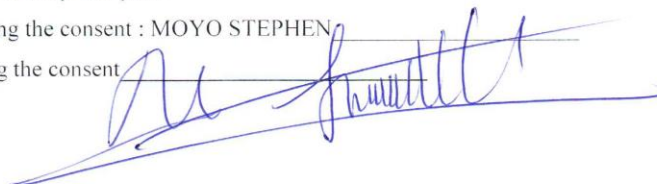
I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.

Print Name of Researcher/person taking the consent : MOYO STEPHEN

Signature of Researcher /person taking the consent



Date 05/12/2024
Day/month/year

CONTACTS FOR QUESTIONS (Names, addresses and phone numbers of the following):

1. **Principal Investigator (Must be a local person and a Zambian).**

Names: MOYO STEPHEN

Phone: 0977463526

E mail: stevenmoyosir@gmail.com

Physical address: Curriculum Development Center

Longacres- Heile Selassie Road

Ministry of Education- HQ

Po Box 50093

Lusaka