AN ANALYSIS OF PRE-SERVICE TEACHERS' PERCEPTIONS OF THEIR KNOWLEDGE AND APPLICATION OF PEDAGOGICAL CONTENT KNOWLEDGE IN LITERACY AND LANGUAGE

BY

MAKISA KAPONDA

A Dissertation submitted to the University of Zambia in Partial Fulfilment of the Requirements for the Award of the Degree of Master of Education in Literacy, Language and Applied Linguistics

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DECLARATION

I, Kaponda Makisa, declare that this study is my own work and that all resources used or quoted have been acknowledged by means of complete references and that neither I nor anyone at this University nor any other Educational Institution submitted this study for degree purposes.

Signed_____Date_____

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APPROVAL

This dissertation by Kaponda Makisa hereby approved as fulfilling the requirements for the award of the degree of Master of Education in Literacy, Language and Applied Linguistics by the University of Zambia.

Examiner 1

Name:…………………………………………Date:…………………………….

Signature: ………………………………………………

Examiner 2

Name:…………………………………………Date:……………………………

Signature: …………………………………………**…………**

Examiner 3

Name: …………………………………………Date: …………………………….

Signature: …………………………………………………

Supervisor: …………………………………………….Date: ………………………….

Signature: …………………………………………………….

Chairperson Board of examiners: ……………………….Date: ……………………….

Signature: …………………………………………………

ABSTRACT

In Zambia, there is growing concern regarding the effectiveness of pre-service programs graduating primary teachers. While teacher educators continue to produce primary teachers, there is uncertainty about how these programs contribute to student teachers' acquisition and application of Pedagogical Content Knowledge (PCK). Recognizing the pivotal role of PCK in effective teaching, this case study aimed to fill a notable gap in the literature by investigating how pre-service teachers perceive and navigate the complexity of PCK, particularly in literacy and language. The study had specific objectives, including gaining insight into their preparedness, identifying gaps between their knowledge and its application in the classroom, and finding ways to support the acquisition of pedagogical content knowledge. The study used qualitative methods and employed a descriptive case research design, aligning with the suggested instruments for data collection. The study focused on second-year student teachers during their school experience, and participants were selected through homogeneous purposive sampling, resulting in a sample of 14 participants, including 10 student teachers and 4 mentors. Data collection utilized three instruments: semi-structured interview guides, focus group discussion interviews, and lesson observations. The study revealed diverse perspectives on teachers' preparedness for the school experience, emphasizing the need for standardized approaches to pedagogy in language and literacy due to varied experiences among student teachers. Positive relationships between student teachers and mentors were highlighted as crucial for professional development, with an emphasis on practical observations and constructive feedback. Regarding the acquisition and application of pedagogical content knowledge, the findings illuminated how PCK is translated into classroom actions, revealing challenges and successes during school experience. In enhancing literacy and language skills, student teachers expanded their knowledge using programs like Jolly Phonics to address content and pedagogy gaps. Recommendations included continuous encouragement, addressing fears related to teaching language and literacy, promoting collaboration between colleges and schools, and providing additional training opportunities to address identified challenges in pedagogical skills, methodologies, and instructional practices, with a specific focus on areas where steps may have been missed.

Keywords: Student teachers, pedagogical content knowledge, school experience, graduation, language and literacy

DEDICATION

This dissertation is dedicated to my parents; Mr. Noah Chisong'a Kaponda and Mrs. Violet Sibanda Kaponda for teaching me the importance of education and always believing in me since I was a child. Gratitude go to my children Mayondie Valerie Namaya and Michael Pelekelo Kawana Namaya as well as Mr. Kelly Jibinga for believing and encouraging me throughout the process. Thanks to the entire family for the prayers and support.

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ACRONYMS AND ABBREVIATIONS

DFID –   Department for International Development

EGRA –   Early Grade Reading Assessment

MESVTEE –   Ministry of Education, Science, Vocational, Training and Early Education

MoE –   Ministry of Education

MoGE –   Ministry of General Education

MTB-MLE –   Mother Tongue Based Multilingual Education

NGO –   Non-Governmental Organisation

PCK –   Pedagogical Content Knowledge

PLP –   Primary Literacy Programme

PRP –   Primary Reading Programme

PST –   Preservice Student Teacher

TLM –   Teaching Learning Material

TTE –   Transforming Teacher Education

UKAID –   United Kingdom Agency for International Development

USAID –   United States Agency for International Development

VVOB –   Flemish Association for Development Cooperation and Technical Assistance

ZANEC –   Zambia National Education Coalition

CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter displays the background of the study. It also presents the research problem which was the basis of this study accompanied by the research objectives and research questions to aid in the collection of appropriate data. The significance of the study and the scope have also been outlined. The chapter further presents the limitations of the study and operational definitions of terms. Finally, the chapter concludes with a summary.

1.1 Background

The teaching and learning of literacy and language require appropriate application of pedagogical knowledge (PK) and content knowledge (CK) especially to the foundation classes (grades 1-4). These are components of an umbrella term, pedagogical content knowledge (PCK), introduced by Shulman (1986) to describe the array of teacher knowledge that teachers must possess and be able to use effectively. PCK describes the part of teacher knowledge that a teacher uses to transform subject matter so that it is 'teachable' and is dependent on CK (Shulman, 1986, p. 60). Thus, CK refers to the teacher's knowledge about the subject matter students will learn. It includes theories, ideas, an organisational framework, evidence, and proof, as well as the practices and approaches that lead to developing such knowledge (Shulman, 1987). On the other hand, PK refers to the specialised knowledge of teachers for creating effective teaching and learning environments for all students. This specialised knowledge includes, for example, classroom management, instructional methods and classroom assessments. Teaching strategies or techniques (e.g., teacher modelling, collaborative activities, experiential learning, and use of graphic organisers), methods, procedures and processes are also part of the specialised knowledge or PK teachers must have.

As it relates to literacy and language, PCK is a form of knowledge that contributes to teachers' competency in teaching literacy, not necessarily in the quality and quantity of subject matter, but in *how* that knowledge is organised and used (Gudmundsdottir, 1987). As stated by the United Nations (2005), "Literacy is a key lever of change and a practical tool of empowerment on each of the three main pillars of sustainable development: economic development, social development, and environmental protection" (para 3). To add on, literacy skills allow students to seek out

information, delve into subjects in-depth and gain a deeper understanding of the world around them.

Literacy and language instruction comprise several vital elements. Regarding literacy, these elements include phonemic awareness, phonological awareness, phonics, fluency, vocabulary, and comprehension. In contrast, language acquisition entails understanding structures and grammar rules; it is the process of cultivating effective communication skills (Beal, 2020).The ability to use language successfully requires a range of skills including phonology, morphology, syntax, semantics, and an extensive vocabulary. Therefore, the relationship between literacy and language instruction and PCK should aid teachers to adequately use the knowledge or representation of subject matter, understand learners' conceptions of the subject, the curriculum knowledge, the knowledge of the educational context, and the purpose of education. In conclusion, these skills contribute to achieving enhanced outcomes in literacy and language proficiency.

The Zambian Educational Context

Zambia has been struggling with low literacy rates for quite some time. In 2014, the United States Agency for International Development (USAID) and the Ministry of Education, Science, Vocational Training and Early Education (MESVTEE) conducted the Early Grade Reading Assessment (EGRA) to assess the reading performance of pupils in Zambia. The purpose of this survey was to determine whether there had been any improvement in the reading performance of pupils in Zambia over the years. The results indicated that Zambia's literacy levels remained low. Serpell & Simatende (2016) and Meki Kombe & Hernan (2017) were among the researchers who conducted this survey.

In their survey, Meki Kombe & Hernan (2017) reviewed the sustainability of the USAID and United Kingdom Agency for International Development (UKAID) funded program on the assessment of reading at grade 2 in Zambia. This came in as an intervention to aid improvement in literacy outcomes. Consequently, the case study was conducted with the intent to implement the Primary Reading Programme (PRP) to contribute to improving literacy levels through reading. This programme was initially supported by the Department for International Development (DFID) but later discontinued. The study found that after the withdrawal of donor support, the programme was poorly sustained with many aspects being drastically altered or discontinued. Variables

influencing programme sustainability included project-level factors associated with the programme design, stakeholder ownership/motivation, resource provision, and monitoring and evaluation. The one that followed after was the Primary Literacy Programme (PLP). This is the one currently being used to teach early grade levels (grades 1-4). Such disruptions of practicable innovation in turn do affect the way student teachers prepare and teach learners, especially with inadequate guidance Thomas et al. (2014).

Despite all that has been done the problems still remain. Literacy levels and outcomes remain low. While there are several factors at play, there is an area of the educational landscape that has only recently received attention, pre-service teacher education. In 2021, the United States Agency for International Development (USAID) funded Transforming Teacher Education (TTE) in Zambia and the University of Zambia embarked on training teacher educators in all public colleges. The United States has worked with the government of Zambia to deliver improved primary school literacy instruction and materials aligned with the national curriculum (USAID, 2021). It also represents a new way of investing in Zambia's teachers and ultimately improving literacy rates in primary schools. Teachers are at the centre of quality education, and when teachers are well-trained, students thrive as is described in Shulman's PCK (1987). Further, the project supports the enforcement of literacy and language instruction through content and pedagogical-rich materials for student teachers to deliver their work diligently.

There have been interventions designed to ameliorate the problem that directly targets teacher preparedness/teacher training/teaching pedagogy and literacy pedagogy. The interventions include collaborating partners such as World Vision hose intention as of 2022 was to implement an innovative, evidence-based -model called *Unlock Literacy* (UL) used for literacy enhancement. The approach aims to improve teaching methods for classroom reading and engage students, families and communities in reading activities outside of school. The model also includes training teachers to incorporate the five core reading skills into their curriculum (World Vision, 2022). The '**Flemish Association for Development Cooperation and Technical Assistance**' (VVOB) has equally strived to contribute to improving low reading and mathematics through the development of understanding among teachers of children developing literacy and numeracy skills that are play-based early childhood pedagogies (VVOB, 1986). Additionally, the Zambia National Education Coalition (ZANEC), a coalition of non-state actors in education and recognized institutions

advocating for improved quality and access to education by all citizens, reaffirmed its vision of education for all in 2015. It emphasised the inclusion of early childhood care and education free and compulsory primary education for all.

It was from this prevailing situation that this study endeavoured to learn more about the literacy and language PCK pre-service teachers have gained through their college or university programme, their perceptions of preparedness as it relates to PCK, and how they apply this knowledge during their school experience or internship upon graduation.

1.2 Research Problem

The identified problem revolves around the efficacy of pre-service teacher education programs in Zambia, particularly concerning the development and application of Pedagogical Content Knowledge (PCK) within the domains of literacy and language instruction. Despite the recognized significance of PCK in facilitating effective teaching practices, a scarcity of comprehensive investigation exists regarding pre-service teachers' perceptions of their own competence in integrating pedagogical strategies with content knowledge, specifically in the contexts of literacy and language education (Johnson et al., 2021).

Moreover, the issue was compounded by the prevalent challenges of student teachers' unpreparedness, deficient application, and inadequate support in effectively incorporating PCK principles within literacy and language instruction. This phenomenon often results in substandard learning experiences for students, potentially compromising overall educational outcomes. Despite collaborative efforts from governmental and non-governmental organizations, such as USAID, World Vision, VVOB, and ZANEC, a substantive research gap persists in evaluating the specific impacts, both positive and negative, of Zambia's primary, class teachers, and pre-service teacher programs on the dissemination of pedagogical content knowledge instruction.

Addressing these complexities was imperative for refining teacher education curricula to ensure that pre-service teachers are adequately equipped with the requisite skills to navigate the intricacies of literacy and language instruction. Consequently, this study endeavoured to furnish valuable insights to inform the enhancement of teacher preparation programs, thereby aligning them more effectively with the evolving urgency of proficient classroom practices in the realms of literacy and language education. By scrutinizing the issues of student teachers' unpreparedness, deficient

application, and insufficient support, this research aimed at pinpointing areas for improvement within teacher education frameworks, ultimately aspiring to elevate the caliber of education dispensed to students in Zambia.

1.3. Purpose of the study

The purpose of this study was to investigate and analyze pre-service teachers' perceptions regarding their understanding and utilization of Pedagogical Content Knowledge (PCK) within the domains of literacy and language instruction. By examining pre-service teachers' perspectives on their knowledge and application of PCK, the study aimed to gain insights into their readiness and competence in integrating pedagogical strategies with content knowledge specifically tailored for literacy and language education. Through this exploration, the study sought to contribute to the enhancement of teacher preparation programs by identifying areas for improvement and providing recommendations to better align pre-service training with the demands of effective classroom practice in literacy and language instruction.

1.4. Research Objectives

The research objectives were to:

i.   Establish student teachers' preparedness for their school experience as it relates to pedagogical content knowledge in literacy and language

ii. Determine gaps, if any, between pre-service teachers' literacy and language pedagogical content knowledge and its application to the real classroom setting.

iii. Determine ways to better support pre-service teachers' acquisition of literacy and language pedagogical content knowledge.

1.5. Research Questions

This study sought to have the under-listed questions to be answered.

i.   What extent of preparation do student teachers have for their School Experience practicum concerning pedagogical content knowledge?

ii. How do student teachers apply literacy and language pedagogical content knowledge during their school experience?

iii. How can student teachers' acquisition of pedagogical content knowledge be supported?

1.6. Significance of the Research

The study expressed its hope to make several contributions. It stated that it had the potential to provide more insight on primary, pre-service teacher programs and how they prepare teachers with the PCK they need to be effective educators. It also mentioned that it might engender other educational stakeholders to examine the problem further, which could lead to future studies and improvements to teacher preparation programs in Zambia's higher education institutions.

1.7. Scope of the Study

The focus of the study was to find out the knowledge that second year student teachers have and how they apply it when teaching literacy and language before graduation. This case study was conducted in the city of Kitwe trickling down to the two selected primary schools which will provide the required sample population to be considered.

1.8. Limitations of the Study

The researchers stated that the current study aimed to provide insights into the preparedness of student teachers in the domain of Pedagogical Content Knowledge (PCK), specifically in literacy and language instruction. Mentioned was the exploration of potential gaps that might arise between student teachers and their mentors within the selected primary schools, shedding light on areas where misalignment or disparities in preparedness could occur. Challenges regarding respondents not wanting to be interviewed and avail the necessary information were acknowledged. The importance of exhibiting patience and persistence in such situations was emphasized. Additionally, the challenge of inadequate resources and time was noted. As a case study, the research would only provide information in the current context but could inspire future studies in similar contexts. Due to inadequate time and resources, the study would be restricted to the district of Kitwe in the Copperbelt.

1.9. Operational Definition of Terms

The operational terms for this study relate closely to the provided objectives. The key terms of focus include Pedagogical, content knowledge, student teachers, literacy, language, and graduation to be applied in the context of this study (Deming, 1982).

Pedagogic Content Knowledge - *Pedagogical content knowledge* as defined by (Shulman, 1987) is the orchestrated learning environment which facilitates learners' understanding of a particular concept and contributes to their intellectual development. It encompasses *pedagogy* (an approach or method that shows how to teach content to a child) and *content* (subject matter) and knowledge.

Student teacher - A *student teacher* on the other hand is a college or university student preparing to teach who is assigned a period of guided teaching during which the student assumes increasing responsibility for directing the learning of a group or groups of students over a period of time.

Literacy – The United Nations Educational, Scientific and Cultural Organisation (UNESCO) in its 1966 World Literacy Program were it declared literacy to be a fundamental human right, stating that ' A person is literate who can with understanding both read and write a short simple statement on his (her) life' (UNESCO, 2008:18). In addition, Mkandawire and Daka (2018:140) noted that, 'there are two major senses in which the world perceives the concept of literacy: The first being conventional literacy that has to do with reading and writing skills while the second deals with the body of knowledge and skills in a field.'

Language – *Language* is another term with multiple meanings. It can also be defined from a narrow and broader perspective. Several scholars such as Bloch and Trager (1942) and Crystal (1987) defined language from a narrow perspective limiting it to human oral language. Lyon (1990) argues that language is a broader concept as it is not restricted to the oral version only as alleged by early scholars.

School experience – The pattern of *school experience* allows trainee teachers to gain deepening insights into teaching and learning, and systematically supports the development of professional knowledge and teaching skills in action in the classroom.

Graduation – A *graduation* is a special ceremony at a university, college, or school, at which degrees and diplomas are given to students who have successfully completed their studies.

1.10 Chapter Summary

The first chapter has discussed the background on student teacher pedagogical content knowledge preparedness. The chapter discussed the following: statement of the problem, research objectives, research questions, significance of the study, and significance of the study, the scope of the study and limitations of the study, and finally operational definition of terms. The following chapter will review the literature related to student teachers' preparedness to teach literacy and language appropriately.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Overview

In this chapter, the most relevant literature to this study was summarised. First, Shulman's (1986a, 1986b, 1987) theoretical framework was discussed. This set the stage for the subsequent sections on: theoretical framework; pedagogical content knowledge in Zambia; pre-service teachers' application of pedagogical content knowledge and integrated pedagogical content knowledge. To sum it all up, a chapter summary was provided.

2.1. Pedagogical Content Knowledge Framework

This study was grounded in Shulman's (1986a, 1986b, 1987) teacher knowledge framework. The framework described; the teacher's knowledge of the CK; the teachers' knowledge of what they teach and where such knowledge was acquired, and how it would be improved or changed. Shulman's teacher knowledge framework had been chosen because of its relevance to this study as it thrives to investigate the preservice teachers' preparedness to teach language and literacy lessons. Morine-Dershimer & Kent (1999) created a model from Shulman's framework contributing to the pedagogical content knowledge. Figure 2.1 outlined his teacher knowledge framework. This was followed by definitions of the key concepts within the framework.

Figure 2.1: *Pedagogic content knowledge framework (Adapted from Morine-Dershimer & Kent, 1999, p.22). Categories contributing to pedagogical content knowledge*

Content knowledge – in addition to subject knowledge and general pedagogical skills, teachers must know how to teach content/topics in ways that learners would understand easily. By having a deep understanding of the CK of language and literacy content/topics and flow of lessons, student teachers develop strategies to convey the knowledge accordingly and engagingly (Darling-Hammond, 2008).

Pedagogical knowledge – refers to the specialised knowledge related to the ability of teachers in delivering the effective teaching and learning atmosphere for all learners. The teaching/learning process also focus on various activities from developing the materials, classroom management, learning habits, problem solving, teaching methodology, instructional strategies and assessment (Hudson, 2007). Student teachers would be able to apply the educational theories, best practices, and techniques to teach the CK for language and literacy effectively

Curriculum knowledge – Educators are tasked with the responsibility of providing a thorough analysis and assessment of educational programs and instructional materials tailored to a specific subject and level. A well-crafted curriculum clearly define the learning outcomes, standards, core competencies, and teaching resources that students must master before progression.

Pedagogical content knowledge – This is a type of knowledge that is unique to teachers, and is based on the manner in which teachers relate their pedagogical knowledge (for this study what preservice teachers know about language and literacy teaching) to their content/subject matter knowledge (what they know about what they should teach in language and literacy lessons) Shulman (1986). PCK is known to blend CK and PK used for teaching as already alluded to. It is vital to know how it works in the teaching/learning process regarding the preparedness of the preservice teachers. The focus includes PCK ideal for teaching language to grades 2-4 and literacy teaching to grades 1-4.

Knowledge of learners – this could mean understanding students' unique skills including their strengths and weaknesses (Liu, 2013, Gess-Newsome, et al., 2016 & König, et al., 2016)   . This helps the teacher to prepare the appropriate content and strategies. Thus, the PCK tends to aid the teacher educator, teacher and preservice teachers in sorting out learners' misconceptions about the subject that they learn which in this case is language and literacy.

Knowledge of educational contexts – Various contextual factors might significantly impact a teacher's performance within different teaching contexts. Such factors can affect both the development of educators and performance in the classroom. Also it refers to a group of learners who through different learning experiences, learn skills or abilities Nucera et al., (2018). In the case of language teaching the skills/abilities include listening, speaking, reading and writing further, in this study student teachers were assessed on how they imparted their knowledge of the basic components of language abilities which are phonology, morphology, syntax, semantics and pragmatics. In terms of literacy, the student teachers were expected to have adequately prepared to teach reading and writing skills (e.g. phonemic awareness, blending, phonics, oral reading fluency. Vocabulary, comprehension and writing) In addition, contextual factors are attributes of the community, the child, and the school itself that may affect the process of teaching and learning. Teaching and learning of language and literacy do not happen in isolation, the process is affected by the world beyond the classroom.

Knowledge of educational aims and purposes and value – learners develop their individuality and fulfils their possibility with the help of knowledge. The aims are what the school wants to achieve (goals, targets, intentions and purpose). Values, on the other hand, are standards such as rules of conduct, respect, honesty, kindness, sharing and appreciation.

2.2. Establish student teacher's preparedness for their school experience as it relates to pedagogical content knowledge in literacy and language

The first objective looks into the preparedness of student teachers for school experience concerning their PCK with teaching literacy and language. The discussion of student teachers and their perception of their preparedness is based on the following themes: student teachers' content knowledge; student teachers' pedagogical knowledge; student teachers' pedagogical content knowledge and pedagogical content knowledge studies in Zambia

2.2.1 Student Teachers' Content Knowledge

The need for teachers to first gain relevant subject matter knowledge as the initial most important agenda to become effective teachers has been emphasised because having secure subject knowledge not only allows teachers to instruct (in-depth) with confidence, but it ensures that teachers are more able, and prepared, to address misconceptions that have a detrimental effect on learners' understanding (Amobi, 2006; ILA, 2018). This direction in teacher knowledge has

increased research on what teachers know or need to know how to apply that which is already known when giving instructions in literacy and language lessons as is indicated in the research objectives. However, much of this research is primarily focused on code-related literacy. Code-related literacy refers to skills which involve two main aspects that is, the relationship between oral and written language (language instruction) and the translation of print-to-sound and sound-to-print in an alphabetic system (literacy instruction) as described by (Owodally, 2014). These skills include, conventions of print (print directionality and format including word spacing, left-right and front-back orientation); knowledge of graphemes (recognition and identification of alphabet-letter names); grapheme-phoneme correspondence (translating units of print (grapheme) to units of sounds (phonemes) recognition of letters and their corresponding sounds); phonological awareness (understanding the sound structures of spoken words – recognition of rhymes, recognition and manipulation of phonemes-the individual sounds in words and syllables); emergent writing (translating units of sounds into units of print – writing letters of the alphabet and own name; phonetic spelling of words) and emergent reading (attending to environmental print and pretend reading).

Borti a researcher of a study on literacy for elementary grades carried out a research on *'Ghanaian Preservice Teachers' Content Knowledge and Pedagogical Content Knowledge in Reading and Writing'*. Further, the study ascertained participants' enactment of their knowledge of reading and writing instruction in the elementary classrooms. The study focused on Second and Third year PSTs. Borti's findings indicated that the Third year PSTs possessed more reading and writing instruction knowledge than Second year PSTs. The report by Borti, (2019) showed that the Third year PSTs demonstrated significantly higher knowledge in reading and writing instruction compared to the Second year PSTs. The focus was on reading and writing skills whereas for this research the focus is on both literacy and language instruction for early grades 1-4. The study's results justifies the importance of pursuing the current research on preparedness of the Second year PSTs regarding language and literacy instruction for the early grades in Primary schools. As mentioned, Borti's findings indicate that the Third year PSTs were one year ahead of the Second year PSTs. Their experience and exposure in education and knowledge put them in a better place. In support of Borti's research findings some scholars have claimed that teachers' experience and education impact teachers' knowledge (Herman, 2010; Perkins, 2013), for instance, Herman, (2010) reported that teachers with more years of teaching experience exhibited more knowledge

in reading and writing instruction. Hence, experienced teachers have more knowledge to understand students' learning problems than the novice teachers. The study showed that there was no examination of whether PSTs' practicum, coursework or maturation for better performance of third-year PSTs although studies have indicated that teachers' qualifications, level of education, number of courses, and years of experience impact teachers' knowledge. The study initiates further research which would reveal the impact of the variables alluded to in reading and writing instruction knowledge.

2.2.2 Student Teachers' Pedagogy Knowledge

Pedagogical content knowledge (PCK) encompasses two elements, content knowledge (CK) and pedagogical knowledge (PK). Pedagogical knowledge (PK) is one of the elements inside the PCK. Further, PK is a specialised knowledge of teachers about teaching methodologies. Shulman on the one hand, considers PK as knowledge of teaching practices and strategies useful in delivering content in the in the classroom. In the learning process activities such as developing teaching/learning materials, methodologies, strategies, assessment, learning habits, problem solving and classroom management are the main focus Gatbonton, (2008). This is contained in his language teach research *'Looking beyond teachers' classroom behaviour: Novice and experience ESL teachers' pedagogical knowledge'*. The author examined the categories of pedagogical knowledge (knowledge related to the act of teaching) of novice teachers as gleaned from their verbal reports of what they were thinking about while teaching and compared these categories to those found for experienced teachers in an earlier study. Gatbonton in his study focused on comparing the PK between experienced and novice teachers fostering need for further research. In this research the conclusion was that the training teachers achieve in University or College may help in developing the PK.

In another study, Piasta et al. (2009) in their study *'Teachers' knowledge of literacy concepts, classroom practices and student reading growth'* the researchers investigated the connections among teacher knowledge (sample size of 42 first-grade teachers), the extent of explicit decoding instruction delivered, and the word-reading progress of students (sample size of 437). The findings unveiled an interaction between teacher knowledge and observed decoding instruction: When taught by more knowledgeable teachers, students showed greater word-reading progress with increased time spent in explicit instruction. Conversely, for students taught by less knowledgeable

teachers, increased time in explicit instruction correlated with weaker skill gains. These results underscore the significance of teachers possessing a specialized understanding of reading, as it directly impacts the effectiveness of their instructional methods. In the current study, the Second year PSTs on school experience endeavoured to exhibit knowledge of the subject matter but lacked adequate PK. Thus, the dependency on thorough guidance from the supervising lecturers, mentors and class teachers with more experience. Related to teachers' knowledge and student achievement, Moats (2009) emphasised the importance of correlation between teachers' knowledge and practice and students' learning outcome. Further, Piasta suggested that teachers should possess enough pedagogical knowledge to design separate instructions for different learners. More knowledgeable teachers positively impact students' achievement (Piasta et al., 2009).

In another related study, the focus was on writing. According to Hsiang & Graham (2010), writing is also important to literacy and language instruction and as such, student teachers must have the PCK required to teach writing well. Teacher preparation as reported by teachers in Hsiang & Graham (2016), about two-thirds of teachers surveyed in stated that their teacher education courses offered them minimal preparation as writing instructors although all the 34 participants reported using evidenced-based practices such as differentiation and instructional strategies for planning, revising, editing, paragraph construction, spelling, and direct instruction of writing skills. Becoming aware of teachers' PCK in writing is an essential step to effective writing pedagogy in classrooms. However, there is a dearth of research about examining PSTs' reading and writing instruction knowledge in six colleges of education in Ghana (Borti, 2019). Borti found no studies that investigated this subject. Although Borti's research findings have contributed to the body of literature, there is still a gap in terms of CK and PCK and student teachers' preparedness in teaching and learning literacy and language.

The findings are significant for this study and the Zambian context where the educators and the mentors' content knowledge enhances delivery of literacy and language knowledge in the learners through eased classroom practices. The government policy in turn, may have an added contribution to improved literacy levels. Another vital factor to consider is the improvement of literacy outcome through a holistic approach which encourages consideration of research on the same regarding pre-service teachers to narrow the gap. Thus, this study should be conducted to find out whether the

pre-service teachers are adequately prepared to teach literacy and language before for school experience and graduation.

The upcoming sections will delve into the following themes: Pedagogical Content Knowledge, Pedagogic Content Knowledge Studies in Zambia, Pre-service Teachers Application of Pedagogic Content Knowledge, and Integrated Pedagogic Content Knowledge. These sections will provide detailed information on PCK, aligned with the study's objectives.

2.2.3 Student teachers' Pedagogic Content Knowledge

Educators use the term Pedagogical Content Knowledge to characterise how teachers support students in their academic growth within a specific subject area. Broken down into its components, Content Knowledge refers to the body of information and skills that are relevant to a particular subject. Pedagogy encompasses specific teaching approaches and strategies that support student learning. Combining these terms allows educators to think intentionally about teaching in light of what students need to learn. Educators have not always held an integrated perspective on content and pedagogy. In his 1986 paper, *'Those Who Understand: Knowledge Growth in Teaching'*, Lee Shulman contrasts the distinct emphasis on content of the late 1800s with education policy's emphasis on pedagogy in the 1980s (Shulman 1987). He unpacks the ways that pedagogy becomes more meaningful in light of a teacher's content expertise.

Converging evidence supports that there are two key PCK elements in Shulman's model which include, (1) *instructional strategies and representations*, i.e. how   the teacher transforms subject matter knowledge, and (2) knowledge of students' understanding, i.e. the learning process and the content-related problems of the students (Shulman 1987). Researchers have used these two key elements as starting points, subsequently adding new PCK elements.

Further, Zuilkowski, D'sa, and Lee (2020) in their article titled *'Integrating new knowledge into everyday practices: teacher pedagogy in early grade literacy in rural Mozambique'*, profiled 20 teachers in eight schools in rural Mozambique translated training of literacy instruction into classroom instruction. These findings by Zuilkowski et al. (2020), reveal that they used three domains of knowledge that is, content knowledge, pedagogical knowledge and pedagogical content knowledge to analyse the interviews and observations of the data. In their findings, Zuilkowski et al. (2020), showed that some aspects of the training translated into classroom

practices, including explicit literacy instruction and the use of visual aids, but teachers did not often use activities for oral language development or reading comprehension, which are critical to providing skilled readers. In relation to the current findings, the gap was noted in the use of activities for oral language development and reading comprehension that fosters more studies which would contribute to making more recommendations that could aid in remedying such problems.

Clark et al. (2017) conducted a study on Pedagogical Content Knowledge (PCK) in their research titled 'Examining Preservice Teacher Content and Pedagogical Content Knowledge Needed to Teach Reading in Elementary School'. Their research was motivated by the growing emphasis on the importance of having knowledgeable and skilled teachers who can positively impact reading achievement. In accordance with their concern, many international reports suggest that large numbers of children are not learning to read, hence, the pursuit of their research. Their study examined the reading instructional knowledge of elementary education preservice teachers *(N=87)* from two programmes (Clark et al. 2017). However, their finding indicate that, the preservice teachers presented fairly robust level of knowledge in the areas of phonological awareness, phonics, comprehension and vocabulary. The authors however, found differences in knowledge based on the programme attended and the number of courses completed and that novice teachers were treated as having similar level of content and pedagogical content knowledge as experienced teachers. In alignment with the current study, the research provides insights to student teachers preparedness for classroom situation.

According to research conducted in Kenya, it was found that teachers who were currently in-service did not have opportunities for professional development (Onyamwaro, 1990; Nzomo et al., 2001), this situation resulted in them encountering difficulties in literacy instruction approaches, even after gaining many years of experience. This issue may have contributed to the knowledge gap that still exists between mentors and pre-service student teachers. Therefore, this study aims to investigate the pedagogic content knowledge in literacy and language of student teachers before they gain school experience and graduate from college.

A much-cited model of the PCK of science teachers titled *'Examining pedagogical content knowledge: The construct and its implication'* was developed by Magnusson, Krajcik, and Borko (1999) building on Shulman (1987), and Tamir (1988) in his article titled *'Subject matter and*

related pedagogical knowledge in teacher education'. This model contains five PCK elements. PCK element (1) knowledge of instructional strategies is connected to content knowledge and the way in which the teacher transforms the content into illustrations, examples, and teaching strategies. The PCK element (2) knowledge of students' understanding covers the learning process and the problems of the students related to content knowledge. The Element (3) knowledge of assessment pertains to the knowledge that teachers use to establish what students have learned. The fourth element (4) contains the knowledge about the curriculum and corresponding curricular goals prescribed by the educational authorities and the knowledge that a teacher needs to implement and plan this curriculum. Element (5) teaching orientation represents "a general way of viewing or conceptualizing science teaching" in the words of Magnusson and colleagues. They argue that this component is significant and has been turned down by scholars who value the ideals of PCK. The exact role of teaching orientation is still under discussion and connects with a general debate. In recent times, a number of prominent PCK (Pedagogical Content Knowledge) researchers have surfaced, as outlined by Gess-Newsome (2015). It emphasizes that the direct influence of teaching orientations and beliefs is not conclusively evident. Consequently, these factors should be regarded merely as enhancers or filters (Gess-Newsome, 2015). Shulman's two elements plus the third and fourth elements presented by Magnusson, Krajcik and Borko (1999) are more realistic and of value to the trainee teachers. They relate well with this study and its objectives as it endeavours to investigate the enforcement of student teachers' PCK when teaching literacy and language. The gap which was left by Shulman is being filled by many scholars in different subjects today depending on the application.

When teaching subject matter, teachers' actions was determined to a large extent by the depth of their pedagogical content knowledge, making this an essential component of their ongoing learning. Pedagogical content knowledge research links knowledge on teaching with knowledge about learning, a powerful knowledge base on which to build teaching expertise.

2.2.4 Pedagogical Content Knowledge Studies in Zambia

In the Zambian context, studies regarding PCK have only been undertaken in the teaching of biology, mathematics, and pre-mathematics. Mapulanga, Nshogoza &Yaw (2023) shared the importance of considering *'students' perception of biology teachers' enacted pedagogical content knowledge (ePCK)* (that is, putting into practice in the classroom the knowledge and skills acquired

from learning or training) *at selected secondary schools in Lusaka province of Zambia'*. The study's findings identified gaps specifically in research on secondary school students' perceptions of teachers' PCK was lacking. To close this gap, this study explored secondary school students' perceptions of biology teachers' enactment of PCK at selected secondary schools in Lusaka district in Zambia. The findings also provided information to aid the measurement and growth of teachers' PCK through teacher professional development (Luft et al., 2022), as well as the possibility of utilising students' perceptions to assess the teaching-learning process. This information might help teachers and supervisors examine the effect of teachers' knowledge on students' learning. When teachers become aware of students' perceptions of their PCK, they may begin to structure lessons that meet the students' expectations (Halim et al., 2014). The results showed that there was still a need to carry out a study on the comparison of students' perceptions and their academic performance in biology. Another recommended research was to compare students' and teachers' perceptions of PCK in biology. Similarly, these results are an encouragement to undertake research in pre-service teachers' preparedness, application and acquisition of PCK support in literacy and language explicit instruction in two selected primary schools in Kitwe.

Sintema & Phiri (2018) investigated Zambian mathematics student teachers' technological pedagogical content knowledge (TPACK) of pre-service teachers at Mukuba University. TPACK is a framework that describes the kinds of knowledge required by teachers for the successful integration of technology in teaching. In teacher education in Zambia little has been done in research on student teachers' TPACK. There is particularly a lack of research studies which focus on mathematics student teachers' TPACK in general. Thus, the purpose of this study was to determine whether mathematics student teachers' TPACK significantly differed depending on gender and grade level. The study also aims to examine if mathematics student teachers' TPACK sub-factors differed significantly based on gender and grade level. The researchers found that there was no significant development in pre-service teachers' TPACK according to grade level. Aligning to Sintema and Phiri, this could partly be because the university does not offer a technology course along with the content and pedagogical courses that students are offered. The researchers' idea was to add technology to the existing PCK to benefit all teachers in the teaching and learning process in order to improve performance in mathematics. This study correlates with the current study which endeavours to find out how well student teachers are prepared in terms of PCK before and during school experience in order to teach literacy and language instruction.

In another related study, Zulu (2016) explored three elements of PCK which included, knowledge of subject matter, teaching strategies and teachers' conduct in the teaching and learning of pre mathematics. The findings revealed that all the teachers were lacking competence in the way they handled the lessons concerning the subject matter. They had insufficient knowledge of teaching strategies and knowledge about learners' misconceptions and learners' difficulties on how they handled certain topics. The similar issues that prompted to undertaking of the current study in literacy and language. Furthermore, from its sample of three participating teachers, no one had an opportunity of attending any continuous professional development workshops, which could in a way help them to improve or develop knowledge about the content and teaching strategies/approaches. As a result, Zulu encourages a study whose methodology includes a test to assess teachers' pedagogical content knowledge for the knowledge gap to continue narrowing. Such recommendations prompt for many more studies to be done hence, the thought of the current study though in another subject area.

Correspondingly, related research other than formal schooling was carried out by, Sichula and Genis in 2019 on *'Pedagogical; practices in non-formal adult literacy classes in Zambia'*. The study's focus was on increasing the number of skilled literate citizens. In doing so, Sichula and Genis explored (1) the pedagogical practices used in the adult literacy context and (2) facilitators' choices of certain teaching/learning methods as presented by the study which was conducted in Katete District in Eastern Zambia. It engaged in two literacy programmes; one run by the Government of Zambia's Department of Community Development; and the other run by a non-governmental organisation (NGO) called Tikondane. Data were collected through interviews, observations and focus group discussions. Observing that programs' literacy classes were dominated by the teacher-centred lecture method, the researchers found that lecture-based instruction applied in a participatory manner, is capable of producing considerable learning gains Sichula & Genis (2019). Moreover, the authors contended that many learners would have benefited from a learner-centred approach. Another finding revealed that, the majority of the facilitators based their pedagogical decisions on their perceptions of the adult learners as illiterate and ignorant a behaviour that is sometimes portrayed by student teachers in the classroom practice with their learners. The authors concluded that the pedagogical practices applied in the two literacy programmes fell short of international pedagogical standards of both adult learning and non-formal learning, thus fostering further studies like this one.

2.3. Determine gaps, if any, between pre-service teachers' literacy and language pedagogical content knowledge and its application to the real classroom setting

The second objective delves into the practical application of content knowledge and pedagogical skills by student teachers in real classroom settings, specifically during literacy and language instruction. The ensuing discussion is structured around the themes outlined below.

2.3.1 Pre-Service Teachers Application of Pedagogical Content Knowledge

Literacy and pedagogical content knowledge could prepare preservice teachers to first identify the procedural knowledge they want their students to acquire and then assist them in generalising the use of different modalities, such as technical and invoking, in reading and writing (Fang, 2014). They can apply the process to novel the tasks. Additionally, teachers are guided systematically in the flow of the subject matter and ideal methods and strategies when handling topics. This helps them to teach literacy and language in meaning making (Fang, 2020; New London Group, 1996) and develop language skills they can use across disciplines and ensure they are able to progress in language levels and foster knowledge building (Fang, 2020; Fang & Pace, 2013).

In the Zambian context, student teachers are acquainted with the Primary Literacy Programme (Chileshe et al., 2018) meant to foster reading and writing to early grades 1-4. The procedural process is such that the teacher is supposed to teach the five key literacy competencies (phonemic awareness, phonics, oral reading fluency, vocabulary comprehension and writing) in the stipulated 1 hour (MoGE, 2014). Chileshe, Mkandawire and Tambulukani (2018) in their article titled *'Primary Reading Programme versus Primary Literacy Programme in Zambia: Exploring their Similarities and differences'*. They analysed and compared two programmes in terms of: overall aims, programme package, teaching and learning material recommended teaching and learning methods, classroom organisation, assessment patterns and treatment of learners with varying abilities. This study relates with the current study as they both focus on factors that would improve teaching and learning of literacy, though this study adds language instruction as well. Indeed, among the similarities noted was that both programmes aimed at improving literacy levels in the country. One of the differences noted was that the PLP programme had some schools running the programme without teachers' guide across subject areas with inadequate pupils' books (Chibamba etal. 2018). In view of the findings stated, the gap still exists regarding the necessities put in place before introducing a new programme for early grades as well as the inclusion of language

instruction. The key competences most times are taught implicitly with little or no explicit aspect. This means that with implicit instruction students are not given explanation but are expected to make discoveries unconsciously. However, research shows that explicit instruction is what students see clearly with explanation. Therefore if both explicit and implicit instruction are concurrently used, this would be a more effective strategy for teaching learners to read and write effectively in their local language and further in English.

If the sole use of implicit instruction is generally less effective in teaching literacy in one's MT, then it is also likely that it would be less effective for teaching a second language (L2). As it stands in the current English literacy and language curriculum, there is no standard guideline for teaching and learning English literacy skills. The curriculum outlines the learning outcomes for teaching English as a language. Implicit instruction coupled with loose guidelines on how to teach English as a second language is likely a difficult scenario for Zambian teachers who are teaching in a dynamically challenging context (multilingual learners and under resourced classrooms). Since learning and acquisition of knowledge never ends, it is prudent to continue integrating latest and improved knowledge to the existing PCK.

2.4. Determine ways to better support pre-service teachers' acquisition of literacy and language pedagogical content knowledge

The third objective of this study focuses on devising effective mechanisms that can facilitate the acquisition of literacy and language pedagogical content knowledge (PCK) by student teachers. The subsequent discussion of this objective follows the study's findings.

2.4.1 Integrated Pedagogic Content Knowledge

Integrated knowledge refers to the knowledge integration framework that suggests that scaffolding students to better integrate their ideas will support conceptual changes in students' understanding. Scaffolding means the support given to students by a teacher throughout the learning process from the lower to higher level. Knowledge integration has on the one hand, been studied as the process of incorporating new information into a body of existing knowledge with an interdisciplinary approach (Linn, 2006). Following the inadequacies in the content and procedure student teachers could be using in the practices for literacy in Bemba and English as well as language, it is important to integrate more PCK rich at effective implementation. The knowledge is intended to be integrated

to the already existing knowledge to assist the student teachers in the provision of ideal instructions.

The conventional approach to literacy and language teacher preparation has been focused on teachers possessing pedagogical content knowledge (PCK), as noted by Ball (2009), Cochran-Smith (2003), and Ladson-Billings (1994). However, the field of teacher education has identified a gap between theory and practice (Borrero et al., 2016; Darling-Hammond et al., 2005; Karkar-Esperat, 2022a; Risko et al., 2008). This gap indicates that teachers' practices do not reflect what they learned in their coursework. To bridge this gap, more attention needs to be given to PCK that aligns with current thinking on literacy and language (Street, 1997). This gap is evident when preservice teachers realize that they are not prepared to start teaching on their own (Levine, 2005, 2006; MacIver et al., 2005; Maxwell et al., 2018; Rust, 2010; Walsh, 2001).

It is important to prioritize the tools and training available to preservice teachers for effectively teaching literacy and language skills. One way to achieve this is by thoroughly evaluating student teachers during their preparation programs, with a particular emphasis on class activities centred on teaching. This approach allows student teachers to gain a deeper understanding of content and pedagogy, enabling them to confidently utilize effective instructional strategies.

Equally important, in the study titled *'The pedagogical content knowledge of a multiliteracies survey instrument for preservice teachers that meets the needs of diverse populations'*, Karkar Esperat explored diversity in the classroom and an equitable learning experience as the desired outcome. To support learners' understanding, teachers need to plan instructions that attend to varied needs of their diverse classroom situations. Further, Karkar Esperat (2022), states that the study presented a survey that assessed preservice teachers' use of different modalities of multiliteracies new literacies and literacy approaches in teaching nationally and globally. The pedagogical content knowledge of multiliteracies (PCKM) was administered to a sample of preservice teachers; 251 preservice teachers participated in the validation of the instrument in this study an expert review panel was utilized (Karkar Esperat, 2022). The findings indicate that, they would contribute to the literature on pedagogical content knowledge using 21st-century approaches collaborating well with the aspect of the current study's research objective which emphasises ways of acquisition and support of student teachers' PCK.

In this study, for instance, teacher educators are expected to tutor the student teacher on the way they are required to teach the key competencies independently following the suggested procedure. Similarly, student teachers need to be taught the steps to systematically follow when teaching language. In addition, Mother Tongue Based Multilingual Education (MTB-MLE) strategies was embedded, formal or non-formal, where the learner's mother tongue and additional languages are used in the classroom. Learners begin their education in the language they understand best and develop a strong foundation in their mother language before adding additional languages. This will correlate well with the current PLP approach in use with the early grades 1 to 4.

2.5 Chapter Summary

The chapter discussed the theoretical framework guiding the study. The study used the Shulman (1986, 1987) teacher knowledge theory. The theory focuses on a teacher's expertise and performance with regards to subject matter/content knowledge and pedagogical knowledge. The theory is relevant to the study because there is a need for mentors and student teachers to be equipped with adequate CK and PK in order to teach literacy and language effectively before school experience and graduating from college. Therefore, a school mentor must be prepared to orient and guide students for them to acquire the necessary skills and knowledge to teach the lower grades. The next chapter discusses the methodology that was used in the study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Overview

In this study, the researcher endeavoured to investigate student teachers' pedagogical content knowledge (PCK) in literacy and language, their perceptions of preparedness as it relates to PCK, and learn how to better support student teachers' acquisition of PCK. The research questions that guided this study were:

i.   What extent of preparation do student teachers have for their school experience practicum concerning pedagogical content knowledge?

ii.   How do student teachers apply literacy and language pedagogical content knowledge during their school experience?

iii. How can student teachers' acquisition of pedagogical content knowledge be supported?

This chapter outlined the methodological approach that was used to facilitate the investigation and answer the research questions. It was divided into the following sections: (a) research design; (b) study population; (c) study sample and sampling techniques; (d) methods of data collection; (e) research instruments; (f) data collection procedure; (g) method of data analysis; and (h) ethical considerations.

3.1 Research Paradigm

Guba and Lincoln (1994) delineate a paradigm as a fundamental belief system shaping the orientation of the researcher. Within this framework, societal structure is construed as a product of social construction, wherein the world is continuously shaped through ongoing interactions. Hence, the researcher subscribed to the theoretical perspective of social constructivism, positing that reality was constructed and comprehended through the social attribution of meaning to phenomena under investigation Vygotsky & Cole (2018). Embracing the notion of multiple subjective realities, the researcher's methodological approach involved the epistemological generation of data through techniques such as interviews, focus groups, and observational studies.

3.2 Research Design

This study used qualitative methods. Qualitative methods emphasise words rather than the quantification of data (Bryman, 2008; Polkinghorne, 2005) and are aimed at discovering how

human beings understand, experience, interpret, and produce in the social world (Sandelowski, 2004). The specific qualitative design of this study is a descriptive study. Descriptive studies provide a comprehensive and relevant summary of experiences (Mill et al., 2010; Greenhalgh 2015). They cover a range of ways of doing research using an all embracing manner of data generation and analysis techniques as they describe, analyse and interpret their case/s. In the current study, the researcher considered the total number of student teachers to be engaged as representing a single case but also that each student teacher was their own individual case.

3.3 Study Population

The sample population for this study specifically included second year student teachers pursuing a Primary Diploma at Kitwe College of Education and their designated mentors from two selected primary schools. During their school experience, these student teachers were assigned to one of the fourteen (14) selected primary schools in Kitwe district. The number of students enrolled in the course was seventy-seven (77).

3.4 Study Sample and Sampling Techniques

A study aimed at yielding information from the population alluded. It is a miniature picture of the entire group or aggregate from which it has been taken (Salaria, 2012). Purposive sampling mode of selecting the participants for this study was used. Purposive sampling is a non-probability sampling method, and it occurs when elements selected for the sample are chosen by the judgement of the researcher (Bogdan & Biklen, 1998; Black, 2010; Cohen, Manion, & Morrison, 2007). The specific type of purposive sampling used was homogeneous. Homogeneous purposive sampling according to (Rai & Thapa, 2015), is a purposive sampling technique that aims at a homogeneous sample, that is a sample whose units include for instance, people or cases sharing the same or similar background, occupation and other traits. For this study, it meant that the researcher selected the sample from which the relevant data to the study was captured.

The sample of this study was the seventy-seven (77) student teachers and their four (4) mentor teachers. From the sample size of 77 the 10 required number of participants was selected using this unbiased method. Each student teacher will have an assurance to be picked.

The 77 student teachers had been designated to 14 schools of which 3 are for students with special education needs (SEN) leaving the number of schools at 11. The names of the 11 schools were put

in a bowl and 2 schools were picked. The pieces of folded paper had names of the pre service student teachers (PSTs) designated there. One of the schools had 7 names while the other had 4 giving a total of 11 students. One student teacher did not give consent hence, the population size reducing to 10. The consolidated total combined with the number of mentors was 14. It has been recommended that qualitative studies require a minimum sample of at least 10-50 participants to reach data saturation depending on the nature of the study (Boddy, 2016). Therefore, a sample of 14 was deemed sufficient for the qualitative scale of this study. This would aid in fully developing the patterns, concepts, categories, properties and dimensions of this case study.

A request for participation was given to student teachers using physical communication (face to face) with a goal of 10 student teachers volunteering for the study. The number of school mentors was 4. At each school there were two mentors, they were expected to provide guidance and coaching regarding the way instruction and delivery of content and pedagogy by the student teachers should done. The learning group (students) aided in the provision of classroom situation data for the 10 PSTs. With prior information of the mentors provided by the student teachers assigned to them, the same approach of contact was used.

3.5 Methods of Data Collection

This study used primary and secondary methods of data collection. The primary methods of data collection include: 1) semi-structured interviews; 2) focus group and 3) lesson observations. Semi-structured interviews were held with student teachers' mentors to understand their perspectives of their students' PCK and preparedness. Student teachers participated in the FGDs and lesson observations.

Secondary methods involved the analysis of various school documents from the college and schools to complement the interviews and lesson observations. This included any documents or teaching and learning resources that contained information on the content and pedagogy used in teaching literacy and language at college or school level.

3.6 Research Instruments

Mkandawire (2019) viewed research instruments as tools or guides used by research to collect data. Each instrument correspond to data collection method. To collect the interview data from the mentors and student teachers, semi-structured interview guides and focus group discussion

interviews was used. The semi-structured interview guide was used to collect data from the mentors on student teachers' performance regarding instruction and delivery. The FDG protocol guide was useful when collecting qualitative data on perceptions and performance of student teachers regarding their pedagogical content knowledge. According to Kombo & Tromp (2006), the interview provides an opportunity to the interviewer to question thoroughly certain areas of inquiry. Borg (1963) asserted that no system of inquiry can be as revealing as an interview. This could be because the researcher meets face-to-face with individuals to interact and generate ideas in a discussion that borders on mutual interest. In addition, interviews are well suited for exploring and confirming ideas and provide in-depth information about particular cases of interest (Kombo and Tromp, 2006). Interviews were principally used in this study because of their flexibility which enabled the researcher to rephrase the questions and probe further and clearly get the actual views of the respondents.

Focus group discussion were conducted with the student teachers in two schools. Focus groups worked particularly well for the following tasks: understanding how participants saw the needs and assets in terms of content and pedagogy for their lessons as described by (Krueger & Casey, 2002). Such interviews assisted the student teachers to understand how they thought or felt about an issue, idea, behaviour, product, or service.

Each method of data collection was associated with its own instrument. A semi-structured interview guide (see Appendix B) was used during the semi-structured interviews with mentor teachers whereas a focus group discussion guide (see Appendix A) was used with the student teachers. The focus group discussion guide was written in a semi-structured way to allow for the emergence of new questions as the need arises. Both the semi-structured interviews and focus group discussions were audio recorded so that they can later be transcribed by hand.

For each lesson observation in literacy and language, a lesson observation checklist (see Appendices C and D) was used. The lesson observation checklists were designed to collect data on student teachers' application of pedagogical content knowledge. The literacy observation checklist tool includes the following parameters; 1) Lesson content (e.g. instruction is focused on PLP-ZL/Literacy in English development modelling the correct technique/task as required by the topic); 2) writing the learning outcomes (e.g. outcomes are consistent and align with the topic); 3)

writing the rationale (e.g. the content of the lesson is explained in the lesson plan); 4) use of teaching and learning materials (e.g. the lesson plan describes how the planned TLMs can enhance student learning); 5) planning how to activate background knowledge (e.g. the lesson plan show and describes how the student teacher will explicitly introduce the lesson topic); 6) background knowledge (e.g. for the grades 1and 2, the lesson plan observes appropriate sequence of reading components, phonological awareness, phonics, fluency, vocabulary, reading/listening comprehension); 7) delivery of instruction (e.g. teacher models skills step-by-step) and 8) using appropriate instructional strategies (e.g. the student teacher conducts assessments of student literacy, phonological awareness, concept of print, letter knowledge, phonemic awareness, decoding skills, oral reading fluency, vocabulary and comprehension throughout lesson on all lesson objectives e.g. spot checking, group response etc.).

The language instruction observation checklist tool on the other hand, included the following parameters, 1) Lesson preparation (write language objectives clearly for students); 2) instructional background (e.g. explicitly link concepts to students' backgrounds and experiences); 3) comprehensible input (e.g. use a variety of techniques to make content concepts clear such as modelling, visuals, hands-on activities, demonstrations, gestures and body language); 4) strategies (e.g. provide ample opportunities for to use strategies like problem solving, predicting, organising, summarising and categorizing); 5) interaction (e.g. provide frequent opportunities for interaction and discussion between teacher/learner and among students about lessons concepts, and encourage elaborated responses); 6) practice/application (e.g. provide hands-on materials and/or manipulatives for students to practice using new content knowledge); 7) lesson delivery (e.g. engage students approximately all of the period, most students taking part and on task throughout the lesson); 8) review/evaluation (e.g. provide feedback to students regularly on their output that is language, content or work). Each lesson was intended to be videotaped so that the lessons would be rewatched in case there was anything missed or important that still needed to be recorded on the lesson observation checklist.

3.7 Data Collection Procedure

According to (Creswell, 2014), the data collection systematic steps include setting boundaries for the study, collecting information through unstructured or semi-structured observations and

interviews, documents, and visual materials, as well as establishing the protocol for recording information.

The study's guiding process for data collection included five main stages as outlined in Table 3.1 below and supported by a prior narrative. The procedure for data collection guiding process included: Semi-structured interview data from the purposive sample of mentors (recorded and transcribed); the next step was a video observation and any associated field notes and feedback from student teachers on the lessons that they are asked to teach with their mentors watching and then providing feedback afterwards; this was followed by lesson observation taking into consideration the PCK; thereafter, collection of lesson plans and learners'/pupils' artefacts from literacy and language lessons was done. Student teachers will afterwards be required to present a lesson using an ideal lesson plan for teaching either literacy in Zambian or English languages (for grades 1-4). They could also teach an oral English lesson to grade 2 or a language lesson to grades 3 and 4. The classes/grades entirely depended on what they were allocated. During the lesson an audio or video recording and any associated field notes would be obtained. In the process a weekly reflection journal or portfolio with artefacts attached would be checked for required information and finally, focus group discussion interviews with all the student teachers at a particular primary school was conducted to find out their perceptions on the PCK used when teaching either literacy or language to their learners.

Table 3.1: Process of Data Collection Five Main Stages

Stage 1	Semi-structured interviews with mentor teacher, recorded and transcribed
Stage 2	Video observations of student teachers and any field notes feedback from mentor teacher
Stage 3	Lesson observations (video-recorded)
Stage 4	Document analysis
Stage 5	Focus group discussions

3.8 Methods of Data Analysis

Thematic analysis was used to analyse all the data collected in this study. This type of analysis is usually applied to a set of texts, such as an interview or transcripts, and it emphasises pinpointing, examining, and recording patterns/themes with data (Braun & Clarke, 2006, Kiger & Varpio,

2020). Themes are patterns across data sets that are important to the description of phenomenon and are associated with a specific question. Thematic analysis consists of very specific and clear guidelines for its conduction, and these procedural guidelines are said to give the method a scientific vigour.

Braun & Clarke (2006) while propounding the six-step process of analysis in thematic technique, have not only focused on the procedural concepts like *what, why, when* and *how* of the method concerned but have also specified that the analyst should have clarity and immense technical expertise to carry out the analysis through thematic method. Thematic analysis is performed through the process of coding in six phases (see Figure 3.1) to create established, meaningful patterns. These phases are familiarization with data; generating initial codes; searching for themes among codes; reviewing themes; defining and naming themes and producing the final report. Each of these phases are discussed next.

Figure 3.1: Six-phase Thematic Analytic process (adapted from Braun & Clarke, 200.2012)
Familiarize yourself with the data

Data analysed thematically needs researchers to start by immersing themselves in their data extensively. As shown in figure one above, the six-phase process starts with this process. Braun & Clarke (2006, 2012) underscored that this process requires researchers to listen and re-listen to participants' audio-diary entries and interview transcripts. Also there was a need to review the interaction and contributions on the platform a lot and repeatedly.

Generate initial codes

Once the Document System takes some shape, qualitative coding starts. According to Braun & Clarke (2012), codes are "the building blocks of analysis" (p. 61) and help researchers make sense of their data in light of the tentative research questions. At this phase researchers select part of the data and assign it a code, which can be done in two generic ways, the concept-driven, deductive approach and the data-driven, inductive approach. For this study, the data-driven inductive approach was used to the codes. It involved letting categories emerge from own materials (documents, recordings and other verbal and printed) and progressively summarising them.

Search for themes

After coding and recording all data source, the next step is to move from codes to themes. According to Braun & Clarke (2006), themes are designed response or meaning within the data set which relates to the research questions. Searching for themes is a very active process in which qualitative researchers actively construct themes rather than discover them even though the name of the phase is 'searching' for themes.

Review potential themes

In this phase, the themes constructed in the previous phase are reviewed and cross-checked against the entire code system, coded segments, and documents. The themes, data, and research questions need to be relevant and in alignment. While doing so, researchers can combine some emerging themes to reach overarching themes whereas some emerging themes might get singled out and found irrelevant even though they might seem very interesting.

Define and name themes

This is also another phase of a thematic analysis that is closely related to the previous one. While reviewing the emerging themes and constructing the overarching themes, researchers conducting a thematic analysis need to make sure that these overarching themes are not repetitive, or they do not overlap (otherwise, they may need to be combined). It is also suggested by Braun & Clarke (2012) that researchers should only define and name themes when they have a singular centre of interest and address research questions.

Produce the report

This process involves going back and forth immersing the researcher in the data. Themes are brought together with the research questions and integrate them into insights, draw conclusions, and develop hypotheses. This also helps at the time of writing down the findings and discussion sections of a research paper.

The obtained results were presented graphically in the form of tables, charts narratives for easy interpretation. The data presentation was further guided by the research questions.

3.9 Ethical Considerations

Since this study was conducted in relevant public institutions, it is important to adhere to ethical considerations in conducting research. Seeking verbal and written consent before getting information from respondents and probing are among the important considerations. This means that permission was sought before collection of data from the relevant authorities as indicated above. Each interview was preceded by an introduction of the aim of the study and a briefing to the questions will act as a guide, and as such respondents should be free to introduce any relevant additional information (Hulme, 2000; Bernard, 2002) such as audio and video were necessary. Student teachers will also be notified before their lesson observation. Informants and respondents was assured of anonymity and that any information they provide should not be altered and be treated in the strictest confidence.

3.10 Chapter Summary

This chapter presents the research methodology selected for the study and the rationale for the choices made has been clarified. The research design used for this study was qualitative which is consistent with the type of instruments suggested to be used to collect data. An explanation is given for each chosen item such as the research design, population, sample size, sampling procedure, research instruments, data collection procedure, data analysis and ethical consideration.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.1 Overview

This chapter presents the findings of this study qualitatively. Research questions were the guiding factor for the presentation. The findings were presented in line with the under listed research questions:

i. What extent of preparation do student teachers have for their school experience practicum concerning pedagogical content knowledge?
ii. How do student teachers apply literacy and language pedagogical content knowledge during their school experience?
iii. How can student teachers' acquisition of pedagogical content knowledge be supported?

4.2 Findings of the Study

The following section focuses on the findings of the study according to the research questions presented at the onset of the study.

4.2.1 Student teachers Preparedness School Experience practicum

On this overarching theme, the data revealed four themes that are presentenced as follows:

Theme 1: *Student teachers' perceptions of preparedness for their School Experience varied*.

In the Focus Group Discussions (FGDs), student teachers were asked how they felt about their preparedness for their School Experience practicum. When asked about their perceptions of preparedness, their opinions varied. For example, a student teacher from Grade 4 revealed that she was unprepared to teach English literacy. She stated, "*At first I had challenges in terms of producing sounds. Initially, I had problems because I was not adequately prepared*." Furthermore, another student teacher said that she "never" learned how to teach literacy in English. Student teachers also felt they were unprepared for teaching literacy within the time allotted and mandated by the curriculum, and they also felt that they were unprepared to teach with the limited number of teaching and learning materials.

The responses from the pre-services teachers (PSTs) who 'never' learned and another, who had concern with teaching and learning materials are indicated below:

I never learned how to teach literacy in English in College. Hence, I had challenges in the beginning because l was not prepared.

The reading materials are not sufficient to enforce reading in the learners.

There were some areas, however, where student teachers felt they were particularly prepared. For example, some said they were prepared in their lesson delivery skills in local language literacy instruction.

I didn't find it very difficult because of my experience with peer teaching. The class teacher didn't do the demonstration for me. (Grade 3 PST)

I had prior experience from peer teaching in college. (Grade 2 PST)

I had college preparedness and the class teacher demonstrated too. (Grade 1 PST

They also felt that their peer teaching experiences helped them to feel prepared because they were subjected to various criticisms. One Early Grade 3 teacher said, "*I didn't find it very difficult because of my experience with peer teaching.* She found the peer practice helpful especially with the absence of class teacher's prior demonstration of teaching of literacy.

Furthermore, they felt they had been prepared in the skills of lesson planning and the creation and use of teaching and learning materials. They also felt to be more exposed to writing a lesson plan for literacy. Writing of language lesson plan was not emphasised, as such students did not have much to talk about. Consequently, during their time in college, PSTs are taught to be innovative and make various TLMs to ease their teaching of language and literacy. On the contrary, some student teachers had challenges with the use of TLMs. This was noted by one of the mentors. She commented:

The challenge was mainly on how to use the teaching/learning aids and to come up with the story. For the learners to follow the chart is required to have pictures containing the sound of the day. Others are doing their level best.

Theme 2: *Most student teachers had adequate pedagogical content knowledge about literacy.*

Content knowledge as alluded to severally, is subject matter or information PSTs had learnt from their college lecturer during the taught period. Below are the responses from the mentors in the two separate schools.

> *On this one, the school and the College should work hand in hand to help those who are lagging. The colleges I believe have done their level best, but the student teachers have varying abilities. And it is my humble request that the College and the school work together to provide proper guidance to the student teachers. (Mentor 1)*

> *In my professional opinion, it is apparent that their content knowledge is adequate for the task at hand. (Mentor 3)*

> *After thoroughly examining the matter, I am pleased to report that I have not come across any concerns or problems to bring to your attention at this moment. (Mentor 4)*

Pedagogical skills for the PTSs include the methodology, strategies and instructional practices used with the learners in the classroom. Below are the mentors' responses.

> *In my opinion, during observation of the student teachers in charge of a grade 4 classroom, I noticed that she was using her phone to play educational music, such that even her lesson was not boring and the learners were actively participating in following the song. They paid much attention. Sometimes they missed steps e.g. omitted to blend or start with vocabulary before fluency. They need to polish up how to follow the steps. (Mentor 1)*

> *Presently, the majority of students are adhering to the established expectations without any noteworthy occurrences or occurrences of note to report. (Mentors 4)*

Student teachers were asked questions about their pedagogical content knowledge in literacy in the FGDs. When asked to provide a definition of literacy, their responses typically included reading and writing and blending syllables or sounds to make words and sentences. All the student teachers interviewed expressed understanding of a well-structured lesson plan. They understood that a well-structured lesson for literacy includes the following components: 1) an introduction; 2) lesson development; 3) phonemic awareness; 4) phonics; 5) oral reading fluency; 6) vocabulary; 7) comprehension; and 8) writing.

Theme 3: *Student teachers had limited pedagogical content knowledge about language.*

Student teachers were also asked questions about their PCK as it specifically relates to language. When asked to define *language*, student teachers' responses were centred on language skills (e.g., vocabulary, grammar, pronunciation). Although student teachers knew the components of a well-structured literacy lesson, they were less knowledgeable about what a well-structured language lesson should include. None of the teachers were able to provide details on the stages of a language lesson, and most teachers, when asked about language lessons, emphasized the priority of teaching vocabulary. Authentically, below are some responses obtained from two of the four mentors after the lesson observations indicating a few gray areas.

> *As time goes on, they will learn to engage in various methods. However, some lack creativity, while the creative ones excel. (Mentor 2)*
>
> *The individuals in question have arrived with certain preparations in place. Among their potential challenges are issues with handwriting and discrepancies within their variation of charts. (Mentor 3)*

The empirical evidence suggests that student teachers endeavored to implement pedagogical strategies gleaned from their tertiary education; however, occasional lapses in the systematic instruction of literacy and language acquisition were evident, alongside difficulties in achieving the prescribed standard of penmanship. Importantly, the observed challenges extended to their proficiency in handwriting during instructional board work, indicating a multifaceted struggle in translating theoretical knowledge into practical classroom applications.

Theme 4: *Student teachers had established supportive relationships with their mentors in preparation for the School Experience.*

When asked about their relationship with their mentors in the FDGs, all the students expressed that their experiences with their mentors were good, supportive and friendly. For example, one of the grade 1 PSTs stated, *'I had an excellent relationship with my mentor. The mentor provided the materials I needed as well.'* Similar situations were described among student teachers who were handling early grades in 2, 3 and 4.

They were also guided on file arrangement, an area where they had a few challenges, such as systematically aligning the documents in accordance with their teaching file table of content and

incomplete documents (e.g. class register, mark schedule and missing documents e.g., progress chart, co-curricular activities, IEP etc.)

4.2.2 Student teachers application of PCK in literacy and language instruction

The second research question sought to find out the content knowledge PSTs' had in literacy and language and the application in a real classroom setting. To obtain the data and achieve the intended goal, lesson observations in both language and literacy instruction were carried out. The study had two observation tools, one for language and the other for literacy. In the detailed analysis of the language lesson, the study focused on the performance of student teachers in various instructional areas, aiming to provide a comprehensive understanding of the following components: lesson preparation; instructional background; comprehension input; strategies; interaction; practice/application; lesson delivery and review/evaluation. Additionally, in the comprehensive analysis of the literacy observation tool, the section looked into three crucial aspects of instructional delivery: content, lesson planning, and the actual delivery of instruction. Each area was assessed, assigning scores on a scale from Exemplary (3) to Unsatisfactory/Unobserved (0).

Language Observation

In this detailed analysis, the study focused on the performance of student teachers in various instructional areas, aiming to provide a comprehensive understanding of their strengths and areas for improvement. The assessment was structured across different narratives, each focusing on distinct aspects of teaching. The first instructional area includes the data from 7 teachers from grades 2-4. The three remaining Grade 1 teachers were not observed in this area because they were not teaching English.

Instruction Area: Lesson preparation

The findings from this instructional study showed a landscape in which student teachers demonstrated varying degrees of proficiency in lesson preparation. Overall, assessments predominantly landed in the "Satisfactory" range, punctuated by isolated instances of excellence deemed "Exemplary," collocated with areas warranting attention under the "Needs Improvement" category. Despite this spectrum, a consistent pattern emerged in the average ratings across several key criteria. Specifically, student teachers demonstrated parity in their ability to articulate clear

objectives, select age-appropriate content concepts, and adapt content to suit diverse learning needs. However, a notable gap surfaced in the aspect of planning meaningful activities, where deficiencies were most pronounced. This narrative underscored the importance of targeted interventions to support this critical facet of instructional preparation, thus enhancing the overall efficacy of teaching practices.

Instruction Area: - Instructional Background

In examining the instructional background of student teachers' lessons from both schools, three key criteria were considered: "Explicitly link concepts," "Explicitly link past learning," and "Emphasize key vocabulary." These criteria were assessed across a range of ratings from EXEMPLARY to UNSATISFACTORY.

The majority of student teachers observed scored satisfactorily or above in explicitly linking concepts, indicating a proficiency in articulating the connections between different ideas or topics within their lessons. However, in explicitly linking past learning, there was a more varied performance, with four out of seven student teachers scoring satisfactorily, while three out of seven scored as needing improvement. This suggests that while some student teachers effectively integrated prior knowledge into their lessons, others struggled to make these connections explicit.

Similarly, in emphasizing key vocabulary, five out of seven student teachers scored satisfactorily or above, demonstrating an ability to highlight and reinforce important terminology within their instruction. However, two out of seven teachers scored as needing improvement or below in this area, indicating a lack of emphasis on essential vocabulary terms.

Overall, while there were instances of exemplary performance across all criteria, there were also areas of weakness that require attention and improvement. Addressing these areas can enhance the quality and effectiveness of student teachers' instruction, ultimately contributing to improved learning outcomes for their students.

Instruction Area- Comprehension Input

In the study, it was noted that students showed remarkable proficiency in using language that was appropriate and understandable for their peers. They demonstrated an impressive ability to

communicate effectively, fostering interaction and understanding in the classroom. This proficiency in communication contributed to a conducive learning environment.

However, when it came to explaining academic tasks clearly, their performance was less robust. Many students struggled to convey instructions or information in a manner that was easily comprehensible to others. This shortfall in clarity could potentially impede their classmates' understanding and completion of tasks, affecting overall learning outcomes.

This observation underscores the importance of clear communication in academic settings. To address this, students may benefit from additional support or guidance to enhance their communication skills. Providing opportunities for practice and feedback, as well as offering strategies for effective explanation, can help students improve their ability to convey academic tasks clearly and comprehensibly to their peers. This targeted intervention can contribute to a more inclusive and successful learning environment for all members of the classroom community.

Instruction Area: Strategies

In the study, it was noted that students showed proficiency in creating ample opportunities for learning, which fostered broad participation and knowledge acquisition among their peers. This suggests that students effectively engaged their classmates and facilitated an environment conducive to learning. However, their use of scaffolding techniques and varied question types displayed weaker performance. These pedagogical skills, essential for effective teaching, were not consistently demonstrated.

Scaffolding techniques, which provide support and guidance to students as they learn, were not utilized to their fullest extent. Additionally, the variety of question types used by students during instruction was limited, potentially hindering deeper engagement and critical thinking among learners.

Given the importance of these pedagogical skills in promoting effective teaching practices, it is essential for instructors to prioritize their enhancement. By improving their proficiency in scaffolding techniques and diversifying their use of questioning strategies, instructors can optimize

their teaching efficacy. This targeted focus on skill development can lead to more engaging and impactful instructional experiences, ultimately benefiting student learning outcomes.

Instructional Area – Interaction

In examining the efficacy of various teaching methodologies, it was observed that students exhibited their highest level of performance in activities that involved group participation and collaboration. These findings suggest a notable strength in the utilization of group activities as a means to enhance student learning outcomes. The cooperative nature of such activities likely fosters engagement, facilitates peer-to-peer learning, and encourages diverse perspectives, thereby enriching the overall learning experience.

Conversely, an area of relative weakness was identified in the domain of providing sufficient wait time. This finding indicates a deficiency in allowing adequate time for students to process information, formulate responses, and actively participate in classroom discussions. Insufficient wait time may impede students' ability to fully engage with the material and articulate their thoughts effectively. As a result, this aspect of teaching may require further attention and refinement to optimize student learning and comprehension.

In summary, while students demonstrated commendable performance in group activities, there exists room for improvement in the provision of adequate wait time. Addressing this imbalance can contribute to a more holistic and effective pedagogical approach, ultimately enhancing the educational experience for all learners involved.

Instruction Area-Practice/Application

In assessing the effectiveness of different instructional strategies, it became evident that students excelled most notably in activities that fostered integration, where various concepts and skills were combined. This finding underscores the importance of interconnected learning experiences in promoting deeper understanding and application of knowledge. Integration activities likely provide students with a more comprehensive grasp of the subject matter, encouraging them to make connections across different domains and reinforcing their learning in meaningful ways.

Conversely, areas of relative weakness were identified in both the provision of hands-on materials and the design of activities tailored specifically for students. This suggests shortcomings in providing tangible resources for experiential learning and in crafting activities that cater to the individual needs and interests of students. Hands-on materials play a crucial role in facilitating active engagement and enhancing comprehension, while activities tailored to students can promote personalized learning experiences that cater to diverse learning styles and preferences.

In summary, while students demonstrated proficiency in integrated activities, there exist notable deficiencies in the provision of hands-on materials and activities tailored to individual students. Addressing these shortcomings is vital to fostering a more inclusive and effective learning environment, where students are empowered to explore, engage, and excel to their fullest potential.

Instruction Area-Lesson Delivery

When evaluating the effectiveness of instructional practices, it was observed that students displayed their strongest performance in supporting content objectives. This finding highlights the significance of aligning teaching activities with the intended learning outcomes, ensuring that instruction is focused and purposeful. Activities that effectively support content objectives likely provide students with clear direction and enable them to grasp key concepts more readily, thereby enhancing their overall comprehension and mastery of the subject matter.

Conversely, a notable area of weakness was identified in pacing the lesson. This indicates challenges in managing the timing and progression of instruction to maintain an optimal balance between depth of coverage and student engagement. A well-paced lesson is crucial for sustaining student interest and maximizing learning opportunities, as it allows adequate time for exploration, discussion, and reflection without feeling rushed or overwhelming.

It is noteworthy that each criterion received instances of an exemplary score, indicating moments of exceptional performance across various aspects of instruction. These instances of excellence underscore the potential for effective teaching practices to yield positive outcomes for student learning, even amidst areas of relative weakness.

In summary, while students demonstrated strength in supporting content objectives, there exists a need for improvement in pacing the lesson. Recognizing and addressing these areas of weakness

can contribute to a more cohesive and impactful instructional approach, ultimately enhancing the educational experience for all students involved.

Instruction Area-Review/Evaluation

In the evaluation of Pre-Service Teachers (PSTs), it was noted that in the majority of criteria, their performance fell within the satisfactory range across multiple domains. This suggests that, on the whole, their performance was commendable and met the expected standards. However, it's important to recognize that satisfactory performance leaves room for growth and refinement.

Despite the predominant satisfactory ratings, there were instances where PSTs received exemplary ratings in specific areas. These instances highlight moments of exceptional performance, where PSTs demonstrated exemplary skills or practices that surpassed the standard expectations. These instances of excellence serve as valuable examples of effective teaching approaches that can be emulated and built upon.

Both schools involved in the assessment showed areas where improvement is needed and concerns that were deemed unsatisfactory. Identifying and addressing these areas of weakness is crucial for enhancing the educational offerings of the schools. By focusing on areas of improvement, schools can refine their practices, support student learning outcomes, and create a more conducive learning environment for all stakeholders involved. This underscores the importance of continuous reflection, assessment, and improvement in the field of education.

Literacy Observation
Introduction

In this comprehensive analysis, the section looks into three crucial aspects of instructional delivery: content, lesson planning, and the actual delivery of instruction. Each area is assessed, assigning scores on a scale from Exemplary (3) to Unsatisfactory/Unobserved (0). The narratives below provide a snapshot of key findings and recommendations for each domain and provides data obtained from 10 student teachers who were observed when teaching Literacy in Zambian language or English language to grades 1-4 for one hour (from beginning to end). Among the 10 student teachers observed, 4 were engaged in teaching literacy in English to grades 3 and 4.

Instruction Area-Content

In the assessment of student performance, it was evident that they excelled particularly in instructional sessions centered on the Primary Literacy Programme (PLP), conducted in both the Zambian language and English. This outcome underscores the effectiveness of teaching strategies tailored to the PLP, which likely contributed to enhanced student engagement and understanding. Delivering instruction in both languages also aligns with the linguistic diversity of the student body, potentially fostering greater accessibility and inclusivity in the learning process.

However, a notable area of weakness emerged in the domain of teachers' assessment practices. Specifically, there were challenges observed in ensuring that assessments were appropriately aligned with the content covered in instruction. Furthermore, some teachers struggled to identify and address student misconceptions effectively, as well as adapt their teaching methods accordingly. These shortcomings may impede the accuracy of evaluating student progress and hinder opportunities for targeted support and intervention.

It is imperative for educators to address these weaknesses through targeted professional development initiatives aimed at improving assessment practices and pedagogical flexibility. By enhancing these areas, teachers can better support student learning and promote deeper conceptual understanding.

In summary, while students demonstrated proficiency in PLP-focused instruction delivered in both Zambian and English languages, there are significant opportunities for improvement in assessment practices and teacher responsiveness to student misconceptions. Addressing these areas of weakness is essential for fostering a more effective and equitable learning environment.

Instruction Area- Lesson Planning

Upon evaluating the performance of student teachers, it became evident that their strongest areas lay in ensuring that learning outcomes were aligned with the topic at hand and in clearly stating the position of the lesson within a series of instructional sessions. This suggests a commendable ability to establish clear educational objectives and provide context for the lesson, facilitating a structured and coherent learning experience for students.

Conversely, notable weaknesses were identified in two key areas related to Teaching Learning Materials (TLMs). Firstly, many lesson plans lacked sufficient description of how TLMs could enhance student learning. This oversight may limit the effectiveness of instructional materials in

reinforcing key concepts and engaging students in active learning experiences. Additionally, there was a lack of clarity regarding how student teachers would model or demonstrate the use of TLMs, potentially hindering students' ability to effectively utilize these resources for their own learning.

Addressing these weaknesses is crucial for enhancing the quality of instruction and maximizing student learning outcomes. Student teachers should receive support and training in effectively integrating TLMs into their lesson plans, as well as in modeling their use to facilitate student understanding and engagement.

In summary, while student teachers demonstrated proficiency in aligning learning outcomes with the lesson topic and indicating the position of the lesson within a series, there are notable areas for improvement related to the integration and utilization of Teaching Learning Materials. By addressing these weaknesses, student teachers can enhance the effectiveness of their instructional practices and better support student learning and development.

Instruction Area: Delivery of Instruction

Upon analysis of the data, it became evident that student teachers demonstrated their most proficient performance in utilizing multiple modes of communication to engage various types of learners. This finding indicates a commendable ability to cater to diverse learning styles, including visual, auditory, reading/writing, and kinesthetic approaches. By employing a range of instructional techniques, student teachers likely enhanced student engagement and comprehension, fostering a more inclusive and effective learning environment.

Conversely, a notable area of weakness was identified in the student teachers' ability to help learners connect new information with their prior knowledge and experiences. Making these connections is essential for promoting deeper understanding and retention of content, as it enables students to build upon their existing knowledge framework and contextualize new information within their own experiences. The observed deficiency in this area suggests a need for student teachers to develop strategies for facilitating meaningful connections between new and prior learning.

Addressing this weakness is crucial for enhancing the overall effectiveness of instruction and maximizing student learning outcomes. Student teachers should receive training and support in strategies for activating prior knowledge, facilitating connections, and scaffolding learning experiences to build upon students' existing understanding.

In summary, while student teachers demonstrated proficiency in utilizing multiple communication modalities to engage diverse learners, there is a notable area for improvement in helping learners connect new information with their prior knowledge and experiences. By addressing this weakness, student teachers can enhance the depth and relevance of instruction, ultimately fostering more meaningful learning experiences for their students.

4.2.3 Student teachers' support in acquisition of pedagogical content knowledge

On this overarching theme, the data revealed five themes that are presentenced as follows:

Theme 1: Student teachers need more support in the production of sounds and teaching of literacy in English.

The findings of the study shades light on student teachers and their understanding of pedagogical content knowledge (PCK) as it relates to what they did not know. The mentees expressed varied views. Below are some of the responses:

> *At first, I had challenges in terms of producing sounds. Initially, l had problems because I was not adequately prepared. School A (Grade 4 PST)*
>
> *I was not adequately prepared, and pronouncing the sounds was difficult. School A (Grade 1 PST)*
>
> *I never learned how to teach literacy in English in College. Hence, I had challenges in the beginning because l was not prepared. School B (Grade 4 PST).*

Theme 2: Mentors need more content knowledge so that they can better support student teachers in literacy and language instruction

In correlation with the responses given by the PSTs on their understanding of pedagogical content knowledge, the research study revealed that some mentors were able to define the concept PCK while one could not do so as clearly shown in the responses below:

> *Student teachers and mentors are expected to possess teaching skills, deliver knowledge effectively, and demonstrate proficiency in using teaching aids. (Mentor from School A)*

> *This concerns the varied methodologies implemented by student educators, as well as those that we employ. (Mentor from School A)*

> *These are some techniques we can use to achieve our daily lesson goals and effectively teach our learners. (Mentor from School B)*

> *The mentor expressed difficulty in formulating a definition for PCK and requested assistance by stating, "Help me with that one," she said. (Mentor from School B)*

The findings showed that some mentors were able to define PCK and brought out the key concepts for the definition such as, teaching skills, varied methodologies and techniques showed some level of understanding. On the other hand, one of the mentors did not have any idea of what it meant and requested for help as clearly shown in the verbatim.

Another thing worth noting was the new way of teaching using technology. This way of teaching literacy in English to grades 3 and 4 was new to the student teachers. This was evidenced in the response made by a mentor after observing one of her student teachers.

> *By leveraging technology, she acquired ideal ways of blending sounds. She cultivated this newly acquired skill using songs from diverse devices as her tool. (Mentor)*

Theme 3: The mentors' acquisition of pedagogical knowledge from student teachers during lesson observations.

The mentors had new things they learnt from the student teachers during observations. This is evidenced in the response below obtained from the interview sessions.

> *The student teachers in charge of teaching literacy are expanding their knowledge of teaching sounds, and we are gaining insight from them. We're*

observing the various teaching methods they're using to educate our learners,

essentially learning about pedagogy. (Mentor)

The mentors also expressed acquisition of new knowledge from the student teachers during the observation of the lesson in literacy instruction.

Theme 4: Student teachers' areas where they needed support

According to the findings, the mentees had things they did not know before school experience, thus wanted to know. One of the student teacher handling early Grade 3, expressed having had challenges regarding writing and preparation of language lessons. And one of the mentors noticed some had struggled with effective communication and missed some steps during lesson development. The data below shows evidence of responses of such.

Writing of language lesson plan was not emphasised, as such l do not have much to talk about. (Grade 3 PST)

Effective teaching can be challenging when a student teacher is not forthcoming about their struggles. They must communicate openly with their mentors, but this may prove difficult if they lack confidence or feel shy. Additionally, the fear of the unknown exacerbated the situation. (Mentor)

In my opinion, during observation of the student teacher in charge of a grade 4, I noticed that she was using her phone to play educational music, such that even her lesson was not boring and the learners were actively participating in following the song. They paid much attention. Sometimes they missed steps e.g. omitted to blend or start with vocabulary before fluency. They need to polish up how to follow the steps. (Mentor)

This according to the student teacher, occurred as a result of little exposure to teaching and preparation of language lessons. Further, one of the mentors expressed concern regarding poor communication especially during their early days of school experience. Hence, the need to improve on effective communication with the mentors and class teachers.

The findings of this study in relation to the above responses imply that collaborated efforts between college and school are required to provide proper guidance to student teachers in order to help the students to improve on their comprehension so that they present the course materials properly.

Theme 5: Mentor teachers need more training to support their student teachers.

Mentor teachers just like supervising lecturers need more trainings on content and pedagogical strategies. The findings indicated that the mentors admitted of having had gaps as shown in the response below;

> *It is important that as mentors, we convene with lecturers before the arrival of students, to establish shared objectives, develop lesson plans, and devise tools for ensuring consistency in instruction. This collaborative approach can be instrumental in the educational experience and can help foster a sense of professionalism and expertise among all involved parties. By working together to establish clear and well-defined goals, mentors and lecturers can ensure that students receive a high-quality, uncompromising education that prepares them for success in their chosen field. (Mentor)*

> *In the academic setting, students enrolled in college often exhibit varying levels of comprehension. As a result, some may encounter difficulties when presented with new course material and find content challenging. On this one, the school and the College should work hand in hand to help those who are lagging. The colleges I believe have done their level best but the student teachers have varying abilities. And it is my humble request that the College and the school work together to provide proper guidance to the student teachers. (Mentor)*

According to the response above, Colleges and schools should heavily focus on both working as a team to address needs of the situations in which the student teachers are to be guided as they plan and deliver their work. The purpose is to work together as a team on shared goals to help the PSTs achieve their individual goals.

Challenges noted from the findings:

1. **Perceptions of Preparedness**: Student teachers demonstrated varied perceptions of their preparedness for classroom teaching. This suggests a potential challenge in ensuring that student teachers feel adequately equipped to enter the classroom environment with confidence.

2. **Translating Pedagogical Content Knowledge into Practice**: The study uncovered challenges faced by student teachers in translating their pedagogical content knowledge into classroom practice. This indicates a gap between theoretical understanding and practical application, which could hinder effective teaching strategies.

3. **Navigating Theory and Application**: Student teachers encountered difficulties as they navigated between theoretical concepts and their practical application in the classroom. This challenge highlights the importance of bridging the gap between academic coursework and real-world teaching experiences.

4. **Future of Teacher Education**: The study explored the future of teacher education and offered recommendations for enhancing pre-service teacher programs and providing necessary support. This suggests that there are existing deficiencies or areas for improvement within current teacher education systems that need to be addressed to better prepare future educators.

These challenges reflect areas where student teachers may face obstacles or require additional support to effectively teach early-grade literacy and language skills. Addressing these challenges could lead to improvements in teacher preparation programs and ultimately enhance educational outcomes for young learners.

4.3 Chapter Summary

In this chapter, the researcher embarked on presenting the findings of the study, guided by a set of fundamental research questions. These questions were not only directed to the course of the study but have also offered profound insights into the experiences of student teachers in the context of early-grade literacy and language classrooms, with a particular focus on pedagogical content knowledge.

The investigation began with the question on student teachers' perceptions of their preparedness for their school experience in an early-grade literacy and language classroom as it relates to pedagogical content knowledge. Through rigorous qualitative analysis, the study uncovered the complex variety of beliefs, self-assessments, and readiness that student teachers hold as they step into the world of classroom teaching. Their perceptions provided the exact view of their own preparedness, highlighting areas of confidence and areas in need of development.

The study also explored the practical application of literacy and language pedagogical content knowledge in the school experience of student teachers. This question focused on the dynamic interplay between theory and practice. The findings illuminated the ways in which pedagogical

content knowledge is translated into classroom actions, revealing the challenges and successes that student teachers encounter as they bridge the gap between knowledge and application.

The final research question focused on the future of teacher education. The exploration revealed valuable recommendations and insights regarding the enhancement and bettering of pre-service teacher programs to better equip student teachers with the necessary knowledge and skills through enforced support.

In conclusion, the chapter has not only provided answers to these pivotal research questions but has also enriched the researchers understanding of the multifaceted landscape of early-grade literacy and language education. These findings offer a foundation upon which future research, policies, and practices in teacher education can be built. By listening to the voices and experiences of student teachers, the paper contributes to the ongoing dialogue on the improvement of teacher preparation programs and the advancement of educational outcomes for young learners.

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

5.1 Overview

This study endeavoured to investigate pre-service teachers' pedagogical content knowledge in literacy and language. The research questions were answered with the study objectives giving guidance to the discussion. The basis of the discussion were the findings presented in chapter five and the theoretical framework and other related literature. The discussion followed the listed objectives: establish about student teachers' preparedness for their school experience as it relates to pedagogical content knowledge in language and literacy; determine gaps, if any, between pre-service teachers' literacy and language pedagogical content knowledge and its application to the real classroom setting and determine ways to better support pre-service teachers' acquisition of literacy and language pedagogical content knowledge. Thereafter, a summary of the chapter was given.

5.2 Learn more about student teachers' preparedness for their school experience as it relates to pedagogical content knowledge in language and literacy

The first objective sought to find out more about PSTs preparedness for their school experience in relation to their pedagogical content knowledge with regard to the teaching of language and literacy. The study's findings reaffirms the findings of Shulman (1986) as he stated that, teachers should be equipped with knowledge of what to teach and how to teach to be able to teach with ease. For this research, student teachers' on school experience, were checked severally to observe their preparedness by the mentors and supervising lectures. The approach was merged with guidance in erring areas. This is intended to have fully baked student teachers in CK, PK and PCK in literacy and language before graduation.

The objective was vital to the study in the sense that student teachers in the latest training are expected to handle early grade learners (grades 1-4). Thus, other than handling the early grades, soon after school experiences and end of their program, they are expected to be deployed and teach language and literacy effectively. In the past, there has been a tendency of not entrusting student teachers and newly deployed teachers to teach early grades. This is supported by findings from Piasta et al. (2009) who reported that students handled by more knowledgeable teachers who spent

more time in explicit instruction improved tremendously in word reading. However, students of less knowledgeable teachers under the same conditions exhibited less improvement in word reading because teachers' PCK impacted students' achievement (i.e., students' word-reading skills). In this regard, this aids to adequate preparation in terms of teaching literacy and language. College lecturers have been in the recent past preparing student teachers to handle and teach early grades and positively contribute to improvement of language and literacy. The need for teachers to first gain relevant subject matter knowledge as the initial most important agenda to become effective teachers has been emphasised because having secure subject knowledge not only allows teachers to instruct (in-depth) with confidence, but it ensures that teachers are more able, and prepared, to address misconceptions that have a detrimental effect on the learners' understanding (Amobi, 2006; ILA, 2018). This direction in teacher knowledge has increased research on what teachers know or need to know about literacy.

There were different views in the Focus Group Discussions (FDGs) regarding PSTs prior experience in teaching literacy and language. Although student teachers experienced some challenges in terms of phoneme pronunciation and missing steps during lesson delivery, they expressed knowledge of teaching Zambian language literacy instruction (PLP) in all the grades (1-4). They attached their experience to the knowledge obtained from the college lectures and the demonstrations exposed to during peer teaching. Tutors reinforced their knowledge by reviewing and reformulating their knowledge. Tutees gained one-on-one attention. Both tutors and tutees gained self-confidence (Howard et al. 1986), the tutor seeing self-confidence in his or her ability to help someone and the tutee receiving positive reinforcement of PCK practice as supported by the current study. The student teachers, on the one hand, expressed unpreparedness in terms of teaching literacy in English (for grades 3-4) because it was new to the students in the beginning and also in teaching language lessons due to inadequate preparation from both college and school.

The study highlights that among the aspects considered in examining the pedagogical content knowledge of prospective student teachers (PSTs), one crucial element is their comprehension of literacy and language concerning teaching. Language, involving spoken words and signs, differs from literacy, which encompasses the ability to use and understand written words or symbols for communication. Literacy, as explained by Griffin & Ferreira (2006), involves conceptualization, formulation, articulation, and encoding/decoding between written symbols and sounds. Zua (2021)

and Montoya (2018) further emphasize literacy as the ability to read and write effectively. The PSTs presented diverse views on defining language, with some focusing on vocabulary, grammar, and pronunciation for language acquisition, while others viewed language and literacy as similar concepts. However, discrepancies in the understanding of literacy emerged among PSTs, affecting their approaches to literacy instruction.

The study aimed to investigate the teaching methods, strategies, and instructions employed by prospective student teachers (PSTs) in applying various theories learned during their education. These approaches were specifically intended for teaching language to grades 2-3 and literacy to grades 1-4. The PSTs were required to connect their theoretical knowledge from school to practical instructional practices, utilising student achievement data to inform and guide their teaching. These findings mirror those of Moats (2009) who emphasised the importance of the correlation between teachers' knowledge and practice and students' learning. She suggested that teachers should possess enough pedagogical knowledge to design separate instructions for different learners. Further, Piasta et al. (2010) reaffirms that knowledgeable teachers positively impact students' achievement, and teachers must possess adequate PCK in reading. The findings showed that only one response was given from the group regarding their understanding of literacy pedagogy. The response indicated that there are steps to follow; methods to use as well as TLMs to use and in addition reading skills that should be emphasised. Regarding the way to teach language, some PSTs did exhibit lack of understanding of how it is supposed to be taught. Some still have challenges of teaching it. Pedagogy both in Language and Literacy was used to make the learners understand the concepts, this was another view by some PSTs.

During school experience, it was important to find out PSTs' engagement in well-structured literacy lessons. According to the findings, the PSTs indicated that it meant the teaching of rules, concepts, and patterns explicitly. Further, it also meant that they teach phonics concepts. Thus, requiring student teachers to be strategic in how they teach all the core components of literacy: phonological awareness; phonics; vocabulary; reading fluency, and comprehension, hence following a sequential order of skill introduction in each lesson.

In addition, PSTs were expected to exhibit knowledge of a well-structured language lesson. When student teachers structure their lessons effectively, they: 1) begin a lesson with a short review of previous work or a short statement of goals; 2) present new material in small steps, with student

practice after each step; 3) give clear and detailed instructions and explanations; 4) provide a high level of active practice for all learners; 5) ask questions, check for student understanding and responses; 6) provide systematic feedback and corrections; 7) provide explicit instruction and practice for written class exercise as presented by (Rosenshine & Stevens, 1986).

All in all, the PSTs exhibited knowledge of a well-structured literacy lesson. All of them had an idea of the correct outline which includes: An introduction; Lesson development; Phonemic awareness; Phonics; reading fluency; Vocabulary; Comprehension; Writing. According to the research findings, the PSTs had scanty knowledge on language instruction. Some PSTs interviewed were only able to recall the 'Introduction'. The PSTs were not able to mention the names of the stages (e.g. presentation, controlled, free practice and communication stage) and what goes on at each stage as indicated by Rosenshine and Stevens (1986).

Throughout their college experience, prospective student teachers acquired knowledge through a diverse range of experiences, skills, and ideas. This knowledge was gained from their unique passions, personalities, and encounters, both personal and professional. In particular, their attention was devoted to cultivating skills and ideas related to the effective teaching of language and literacy to lower students. In view of the current findings, the Australian Curriculum, Assessment and Reporting Authority (ACARA) provides valuable supporting evidence for the conceptualization of literacy. According to ACARA (2011), literacy is defined as encompassing "the knowledge, skills, and dispositions to interpret and use language confidently for learning and communicating in and out of school and for participating effectively in society." This view is supported by Mkandawire (2018) who defined literacy as competence, attitudes and skills in an area of specialization. These authoritative definitions highlight the comprehensive nature of literacy, emphasizing not only language skills but also the development of a range of competencies and attitudes essential for meaningful participation in both educational and societal contexts.

The findings also show that the PSTs have gained strategies that are tailored to the learners' level and class management from the college educators. This has resulted in their contentment with the teaching methodology practices used for language and literacy education. Such a positive outcome was achieved because the PSTs were provided with the right guidance and mentorship. Hence, the college and the school must collaborate and provide proper guidance to the student teachers. An environment that fosters hospitality and cordiality for our mentees, which enables them to

communicate openly and overcome any struggles they may face should be created. By doing so, we can ensure that our PSTs are well-equipped with the necessary skills and knowledge to deliver effective teaching to our young learners. The current findings correlates with Mulenga (2016) who asserts that effective teacher preparation requires exposure to various teaching strategies in the teaching methodology course. This exposure aims to equip prospective teachers with broader pedagogical knowledge and skills for application in diverse lessons within school settings.

The findings of the current study also indicates that, peer teaching experience played a crucial role in students' growth, exposing them to constructive criticism that helped them develop their skills and knowledge effectively. These findings align with those of Topping (2005) who in his findings stated that peer teaching involves people from similar social groupings who are not professional teachers helping each other learn and learning themselves by so doing, further, it is the process of peer tutoring and acquisition of knowledge and skill through active helping and supporting among status equals or matched companions. Based on the feedback received, it was evident that the students had grasped the lesson delivery concepts and learned how to create a lesson plan. However, they were more exposed to developing a lesson plan for literacy as opposed to language. Consequently, they had limited input on the latter, which affected their ability to effectively discuss it. The significance of creating effective teaching and learning materials (TLMs) for language and literacy instruction is also paramount, and pre-service teachers (PSTs) are equipped with an abundant knowledge and skills to achieve this goal during their college years. This defined by (Branton, 1999; Emery & Flood, 1998) as the use and interpretation of images is a specific language in the sense that images are used to communicate messages that must be decoded in order to have meaning. With the ability to utilize TLMs in proficient and diverse ways, PSTs are well-equipped to deliver dynamic and effective language and literacy instruction, providing learners with the opportunity to thrive and succeed. This is what Mkandawire, Zuilkowski, Mwansa and Manchishi (2023) meant when they indicated that the use of materials in diverse ways help learners realise the different ways of approaching a teaching point in diverse settings.

After completing four learning terms (three in their first year and one in their second year), student teachers are expected to possess a thorough understanding of the subject matter that they was teaching to their students. They are also expected to have acquired the ability to impart this knowledge to their students through the use of various teaching approaches and strategies. In

addition, student teachers will have developed their language skills, including listening, speaking, reading, and writing, as well as their literacy skills, which include phonemic awareness, phonological awareness, phonics, oral fluency, vocabulary, and comprehension in preparation to teach learners in various schools of practice. This in connection to the study findings suggests that, through Beyond Ourselves Zambia Futures' Jolly Phonics program, student teachers were introduced to a fresh approach to teaching English literacy. They discovered the effectiveness of beginning a lesson with a song, play, game, or story, and the importance of using safe words (previously taught sounds) when instructing in English literacy. Jolly Phonics is a fun- systematic program designed for young or beginner learner to develop their reading and literacy skill (Chris, Lloyd & Wernham, 1989). According to Lloyd and Wernham, Jolly Phonics teaches the 5 main skills, where the children are firstly taught the 42 sounds in English, and then continued into blending and reading skill, at the same time they are taught to write by identifying the sounds in words (Ariati, Ni & Suarnajaya, 2018). Furthermore, the authors assert that Jolly Phonics adopts a multisensory approach, delivering information through sight, sound, and kinesthetic methods (Lloyd & Wernham, 2010), making it particularly suitable for the easy comprehension of young children. Expanding on their findings, they accumulated valuable experience during their time as student teachers, effectively engaging students through a variety of class activities.

The predominant preference for lecture methods amongst student teachers generally results in the notion that whole-class activities are the most effective approach. However, they discovered that involving students in pair, group, and individual activities can be more efficacious. Furthermore, they ascertained the benefits of incorporating technology into the teaching of specific sounds. One of the student teachers for grade 2 class articulated that they learned to incorporate multiple sounds in a single lesson. Other students also conveyed that they became proficient in concluding a lesson by highlighting pertinent details.

The research findings unveiled variations in the preparedness of students for teaching, with some demonstrating readiness and others not. Additionally, the study highlighted the significant contributions of both the college and school in delivering valuable content and pedagogical knowledge. This effective knowledge transfer was made possible through the collaborative support of mentors, encompassing both college supervisors and school mentors.

5.3 Determine gaps, if any, between pre-service teachers' literacy and language pedagogical content knowledge and its application to the real classroom setting

The study's second objective aimed to uncover any potential disparities between the literacy and language knowledge possessed by Pre-Service Teachers (PSTs) and their practical application in a classroom environment. To accomplish this, two observation tools were utilized to conduct lesson observations for both literacy and language instruction. The current study also provides evidence from the findings of (Kane et al., 2011), who said "observation measures of teaching effectiveness are substantively related to student achievement growth and that some observed teaching practices predict achievement more than other practices". The language lesson analysis tool which was used focused on various instructional elements, including lesson preparation, instructional background, input comprehension, strategies, interaction, practice/application, lesson delivery, and review/evaluation. Meanwhile, the literacy observation tool evaluated three critical aspects of instructional delivery: content, lesson planning, and the actual delivery of instruction. Each area was assessed and scored on a scale ranging from Exemplary (3) to Unsatisfactory/Unobserved (0).

In this detailed analysis of language instruction, the study focused on the performance of student teachers in various instructional areas, aiming to provide a comprehensive understanding of their strengths and areas for improvement. The assessment was structured across different tables, each focusing on distinct aspects of teaching.

The evaluation of the *lesson preparation* aspect indicated that the students received satisfactory ratings with occasional exemplary ratings and a few needing improvement ratings. Overall, all students received satisfactory ratings in the evaluated criteria. However, there was an area where improvement was needed (plan meaningful activities) to enhance teaching methods. Both schools should work on the area where they received need improvement rating. Educators and schools can systematically address the identified need for improvement in planning meaningful activities by ensuring that student teachers do the following: provide a roadmap for planning activities that align with educational goals; tailor activities to the interests and abilities of the students; relate lesson content to real-life situations whenever possible; recognize and accommodate diverse learning needs within the classroom; design activities that stimulate critical thinking and problem-solving skills; ensure that instructions for activities are clear, concise, and easily understood by all students

and regularly assess the effectiveness of planned activities through formative assessments and student feedback. This is supported by Emiliasari (2019) who stated in his findings that teachers prepared the lesson plan by: reviewing the core competence basic competence from the syllabus, searching for learning resources, choosing learning media, determining the material and selecting learning method. However, the activities compiled in the lesson plan were not all implemented. Further, Roth, & Horton-Krüger, (2012) concludes that mastering the art of lesson preparation in effect means no less than knowing in advance what will stimulate the intellect

Students' performance in *instructional background* was satisfactory in 'explicitly link concepts', but they needed improvement in 'explicitly link past learning' and in 'emphasise key vocabulary'. Explicitly linking past learning require that clear connection is made by educators between current or upcoming lessons and the knowledge, skills, or concepts that students have previously learned. It involves making the relationship between new and old information overt and apparent to students, highlighting the continuity and progression of their learning journey. Vocabulary, as one of the knowledge areas in language, plays a great role for learners in acquiring a language (Cameron, 2001) The Emphasis on key vocabulary, on the other hand, require highlighting and giving special importance to specific words or terms that are essential for understanding a concept, topic, or lesson. This emphasis can include repeated use, explicit explanations, visual aids, or activities that require students to actively engage with and use the identified key vocabulary. The goal is to enhance comprehension and retention. Nation (2001) further describes the relationship between vocabulary knowledge and language use as complementary: knowledge of vocabulary enables language use and, conversely, language use leads to an increase in vocabulary knowledge However, there was room for growth and development in the areas of concern as this was emphasised during the coaching sessions.

In *Comprehension Input*, the findings show that students teachers performed best in 'use speech appropriate for students', but they need improvement in 'explain academic task clearly'. The PSTs should focus on the area alluded to enhance their teaching effectiveness, particularly in increasing on explicit clarification of the learners tasks so that the performance outcome improves.

The overall student teachers' performance in the area of *strategies* was best in 'provide ample opportunities'. Generally, this exhibits adequate learner engagement. Similar to the findings of Maloch et al. (2003), who found evidence that beginning teachers employed strategies, techniques,

and methods they learned in their training, the current study revealed students' weak scores in the 'use of scaffolding techniques and use a variety of question types' (from low to higher order). The student teachers should focus on these areas to enhance their teaching of language.

In the instructional area of *interaction*, the students' best performance was at 'use group activities'. The scores provided evidence of PSTs engaging the learners in group activities/interactions when solving the class tasks. The weakest area was at 'provide sufficient wait time'. The findings show that the student teachers were rushing through the activities. Learners were not allowed enough time to express themselves both orally and in writing as regards the class activities.

The area of *practice/application* on the other hand had the students' best performance in 'activities that integrate'. The weakest areas were in both 'hands-on materials' and 'activities for students'. Whenever the learners were given activities involving hands-on materials' and 'activities for students', the participation was not good and so was the performance, probably because explicit instructions were not given.

In the study, it was noted that, in the area of *Lesson Delivery,* students performed best in 'support content objectives'. This meant that student teachers were able to develop objectives derived from the content given for the grade. It is worth noting that the weakest area was 'pace the lesson'. This criterion received lower scores because the student teachers failed to manage their speed as they moved through the lesson. Sometimes the rate of delivery for different parts of the lesson was too fast and other times too slow, hence the high scores in 'need improvement'. Each criterion received some instance of 'exemplary' score.

Regarding the area of *Review/Evaluation,* overall, in most criteria PSTs were falling under satisfactory in multiple areas, indicating that performance was generally good. They received instances of EXEMPLARY ratings in some areas. Both schools have areas where improvement is needed and unsatisfactory concerns, and it's crucial for them to focus on these areas to enhance their educational offerings.

In the literacy comprehensive analysis, the section looked into three crucial aspects of instructional delivery: content, lesson planning, and the actual delivery of instruction. Each area was assessed,

assigning scores on a scale from Exemplary (3) to Unsatisfactory/Unobserved (0). The key findings for each domain are clearly discussed in this section.

This finding sheds light on instruction area- *content*, overall, students performed best in 'instruction focused on PLP in Zambian local language and English language'. The good performance in PLP in Zambian Language could be attributed to exposure to content and pedagogical knowledge from their subject lecturers at college. The current study also provides evidence for (Chileshe et al., 2018) who stated that, in the Zambian context, student teachers were acquainted with the Primary Literacy Program meant to foster reading and writing to early grades 1-4. The high proficiency in English literacy, on the other hand, can be attributed to the guidance and orientation provided by mentors and classroom teachers during their school experience. Similar to the findings of (Amobi, 2006) who found evidence that relevant subject matter ensures that teachers are more able, and prepared, to address misconceptions that have a detrimental effect on learners' understanding. The weakest area was 'teacher uses content appropriate assessment' and some were not able to address misconceptions and adapts. This was exhibited in the learners' failure to master the teaching content, it noticed in their poor performance especially in the written exercise.

According to the findings the Area of *Lesson Planning* had an overall, best performance for the student teachers in 'learning outcomes are aligned with the topic' and 'position of the lesson (in a series) stated'. The scores clearly showed that the student teachers knew how to align the learning outcomes to the topic of the day. The learning outcomes were closely related to the topic and they followed the sequentially outlined position of the lesson. The weakest areas included 'the lesson plan describes how the TLMs can enhance student learning' and 'the lesson plans explains the way student teachers will model/demonstrate how to use the TLMs'. The findings have been highly correlated with those of Gatbonton, (2008) who stated that, in the learning process activities such as developing teaching/learning materials, methodologies, strategies, assessment, learning habits, problem-solving   and classroom management are the main focus Gatbonton, (2008). Further, Gatbonton indicated that   the successful implementation of the above- named events determines the improvement of students' learning outcomes.

The area of *Delivery of Instruction's* data showed the best performance by the student teachers was in the area indicating 'the student teacher uses multiple ways to communicate the lesson to engage different types of learners (e.g. visual, auditory, reading/writing and kinesthetic or body movement'. In relation to this study Lloyd & Wernham (2010), reaffirms that Jolly Phonics incorporates multisensory approach, where the information is delivered through sight, sound and kinesthetic means both in teaching of first and second language. The weakest area for the student teachers was 'teacher helps learners make connections with their prior knowledge and experiences'. The student teachers lacked the skill of connecting previous experiences to the current content, hence affecting the scaffolding or buildup of knowledge and growth.

In conclusion, the data suggests that there is a mix of strengths and areas for improvement in the evaluated language and literacy aspects. Communication and clarity, as well as the use of modelling and examples, are areas where some improvement is needed. Providing guidance, support, and effective feedback to students is important for enhancing teaching practices. Engagement and differentiation strategies need further development, and the teacher's pace and students' thinking time should be balanced. Assessment and the use of instructional strategies show promise, but there's room for improvement in some areas. The data indicates that there is a need for more consistent and effective teaching practices, with an emphasis on clear communication, modelling, and differentiated explicit instruction.

5.4 Determine ways to better support pre-service teachers' acquisition of literacy and language pedagogical content knowledge

The third objective sought to determine ways to better support PSTs' acquisition of literacy and language PCK. Thus, the main theme focused on whether the mentors with their mentorship skills had achieved the intended objective. The subdivisions used to collect the data included: their ability to define PCK; preparation and skills used on the PSTs; ways used to enhance literacy and language skills; reinforcement on the use of technology; professional development and support provided to the PSTs and the aspect of cooperation and collaboration between colleges and schools.

The findings revealed that most of the mentors portrayed an understanding of the definition of PCK as they brought out the key concepts for the definition such as teaching skills, varied methodologies, and techniques correlating with the buildup on the work of Shing et al. (2018) who defined PCK as the integration or amalgamation of pedagogy in the growth and development teachers. In a similar view, Femandez (2014) states that PCK has proved to be a fruitful model for investigations aimed to document the knowledge that makes one a good teacher. Admittedly, one of the mentors did not have any idea of what it meant and requested for help. This gap could be a good idea to foster future research on the need to improve on in-service teachers' content knowledge.

According to the findings, after observing their students, two of the mentors indicated that students had varying abilities since some exhibited an understanding of the content knowledge while others did not. Some of them in the process were fearful and uneasy. The current findings are supported by those from Saeli et al. (2011), who stated that content knowledge also includes an understanding of what makes the learning of specific topics easy or difficult, the conceptions and expectations. Nonetheless, two of the mentors were content with their findings from the observations. The student teachers exhibited adequate content knowledge. In relation to pedagogical skills, student teachers tried to deliver in their lessons, although at times they would miss the steps for teaching literacy or language. To support the data, pedagogical knowledge as originally defined by Shulman (1986, 1987) are principles and strategies of classroom management, assessments, and instructional processes, a similar view contained by (Guerriero, 2017). Considering that it was their first school experience, there was room for improvement with proper guidance and coaching. It was worth noting that they also had challenges with handwriting and needed assistance from college and school.

Teaching Literacy skills (Reading and Writing) in Zambia has been a challenge for many years. Thus, a number of interventions to improve this situation have been employed as earlier alluded to in Chapters 1 and 2 of this document. Therefore, a check on how some of the interventions are being implemented was vital. Language (Listening and Speaking skills) teaching on the other hand, has been misunderstood with regard to understanding of content to be taught as well as the steps to follow while teaching language because the focus is mainly on literacy instruction.

Technology is proving to be an encouragement to learners, the grade 4 PSTs (teaching literacy in English) acquired responsible behaviours and development of higher order thinking skills. This study found as has previous research from Sintema & Phiri (2018) that, the examples of technological knowledge are the ability to create/utilize web pages, the ability to use social media applications, and several other applications for learning purposes such as creating collaborative learning activities, encouraging communication with students, facilitating students take digital notes for learning, assist students in developing ideas, and help students visualize the results of their thoughts. It was helpful in solving pupils' struggles as well as finding methods useful with what they learn in ways that are effective and meaningful as alluded to by Sintema and Phiri.

During school experience, the PSTs endeavoured to build onto their skills and knowledge thus expanded their expertise. They engaged the learners in various class activities. This enforced practice given through feedback and follow-up activities. They also were able to measure changes in the knowledge and skills acquired through the process of changes in learners' performance.

According to the findings, Colleges and schools should both focus heavily on working as a team to address needs of the situations in which the student teachers are to be guided as they plan and deliver their work. The purpose is to work together as a team on shared goals to help the PSTs achieve their individual goals.

5.5. Chapter Summary

The study conclusively found variations in the preparedness of students for teaching, with some exhibiting readiness while others did not. Notably, it highlighted the valuable contribution of both the college and school in imparting essential content and pedagogy knowledge. This effective transfer of knowledge was facilitated by the collaborative support of from both the college supervisors and school mentors. The data also suggested that there was a mix of strengths and areas for improvement in the evaluated language and literacy aspects. Communication and clarity, as well as the use of modelling and examples, were areas where some improvement was needed. Provision of guidance, support, and effective feedback to students was noted to be important for enhancing teaching practices. Engagement and differentiation strategies need further development, and the teacher's pace and students' thinking time require to be balanced. Assessment and the use of instructional strategies show promise, but there's room for improvement in some areas. The data indicated that there was a need for more consistent and effective teaching practices, with an

emphasis on clear communication, modelling, and differentiated instruction. Further, the findings stated that, Colleges and schools should both focus heavily on working as a team to address the needs of the situations in which the student teachers receive guidance as they plan and deliver their work. The purpose was to work together as a team on shared goals to help the PSTs achieve their individual goals.

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.0 Overview

This chapter concludes the study on the critical examination of student teachers' pedagogic content knowledge in literacy and language within the context of Kitwe Urban Primary Schools. In this investigation, the study has scrutinized various facets of literacy instruction, encompassing pedagogic knowledge, lesson planning, delivery, language observation, instructional strategies, interaction, and practice/application. The data derived from the evaluation of student teachers' performance, as outlined in the preceding narratives, provides a comprehensive overview of their strengths and areas for improvement in literacy instruction. This chapter aimed to distill key insights from the study and present meaningful conclusions that inform recommendations for enhancing the quality of literacy and language instruction in Kitwe Urban Primary Schools. The study was guided by the following research questions:

i. What extent of preparation do student teachers have for their school experience practicum concerning pedagogical content knowledge?

ii. How do student teachers apply literacy and language pedagogical content knowledge during their school experience?

iii. How can student teachers' acquisition of pedagogical content knowledge be supported?

The answers to the above questions offered a degree of understanding of the multifaceted challenges and successes encountered by student teachers in their quest to impart effective language and literacy education.

6.1 Conclusion

The first research question aimed to investigate student teachers' preparedness for their school experience concerning pedagogical content knowledge in language and literacy, particularly focusing on early grade learners (grades 1-4) in Kitwe Urban Primary Schools.

The study revealed the following:

i. Preparedness for Teaching Literacy and Language:

- Student teachers in School A expressed initial challenges in producing sounds, indicating a lack of adequate preparation.
- Varied perspectives were shared on literacy, with definitions ranging from pronouncing and blending syllables to making words and sentences, teaching learners how to read, and using sounds in songs.
- Language was defined with an emphasis on vocabulary, although some discrepancies in understanding were noted among student teachers.

ii. Pedagogy in Language and Literacy:

- Pedagogy was identified as a crucial aspect for both language and literacy instruction, serving to make learners understand the concepts effectively.
- Components of a well-structured lesson in literacy included phonemic awareness, phonics, oral reading fluency, vocabulary, comprehension, conclusion, and evaluation.
- Components of a well-structured lesson in language encompassed listening, speaking, reading, and writing skills, with a focus on new vocabulary and its correlation in both local and English languages.

iii. Knowledge Obtained from College:

- Student teachers gained knowledge through experiences, skills, and ideas related to teaching language and literacy to lower grades.
- Methodology and teaching strategies were acquired, aligning with the level of learners and emphasizing class management.
- Lesson planning for literacy received more emphasis than language, leading to varied levels of preparedness in this area.

iv. Knowledge Obtained from School Experience:

- Student teachers were expected to acquire knowledge of content and effective teaching approaches after four learning terms.

- Experience with Jolly Phonics was highlighted, emphasizing starting lessons with songs, plays, games, or stories, and using safe words when teaching literacy in English for grades 3 and 4.
- Engagement in teaching activities varied, with some student teachers learning how to teach multiple sounds in a lesson and concluding lessons effectively.

vi. Overall Implications:

- The findings underscored the importance of comprehensive preparation for student teachers, particularly in the crucial areas of language and literacy instruction.
- Varied perspectives and experiences highlight the need for consistent and targeted professional development for the mentors to ensure a standardized approach to pedagogy in language and literacy.

The second research aimed at exploring the student teachers applied literacy and language pedagogical content knowledge during their school experience in the early-grade classrooms.. The study revealed the following:

i. Mentor Feedback on Teaching:

- The mentor for Grade 1 PST provided observations and feedback, advising the teacher to create charts and improve pronunciation of sounds.
- The Grade 2 PST underwent observation and received guidance on chart-making, effective class management, and the inclusion of singing to manage noise levels.
- The Grade 4 PST reported being observed and receiving feedback. Recommendations included improving sound pronunciation, creating Individualized Education Plans (IEPs) for pupils, and guidance on creating instructional charts.

ii. Relationship with Mentors:

- Providing mentorship to PSTs was discussed in terms of emphasizing support to aid individuals in their growth and goal accomplishment, utilizing various strategies.
- The overarching conclusion from this aspect of the study revealed that all students experienced positive, supportive, and friendly relationships with their mentors.

Additionally, they received guidance on teaching file arrangement, suggesting a comprehensive and nurturing mentor-student relationship.

These findings highlight the pivotal role of mentorship in shaping the professional development of Pre-Service Teachers (PSTs). Emphasizing practical observations and constructive feedback, mentors play an instrumental part in refining teaching practices. The positive relationships noted between students and mentors emphasize the critical significance of a supportive environment in cultivating impactful learning experiences throughout the teacher training process.

The third question was how well student teachers' acquisition of pedagogic content knowledge can be supported. The results were as follows:

i. Definition of Pedagogical Content Knowledge (PCK):

- PCK is crucial in a teacher's life, requiring understanding from both in-service and pre-service teachers.
- Three out of four mentors provided diverse definitions, emphasizing teaching skills, varied methodologies, and techniques. One mentor sought assistance in formulating a definition.

ii. Preparation and Skills of Student Teachers (PSTs):

- Mentors guided PSTs in PCK during school experience, with varying views on PSTs' preparation, focusing on teaching skills, methodologies, and techniques.
- Opinions on PSTs' preparedness for content and pedagogy varied among mentors, with some expressing satisfaction and others highlighting potential challenges.

iii. Content and Pedagogical Knowledge:

- Content knowledge varied among PSTs, necessitating collaboration between colleges and schools.
- Pedagogical skills, methodologies, and instructional practices were evaluated, with identified challenges like missing steps indicating room for improvement.

iv. Enhancing Literacy and Language Skills:

- PSTs expanded knowledge using programs like Jolly Phonics (teaching literacy in English), addressing content and pedagogy gaps.
- Recommendations include continuous encouragement and addressing fears related to teaching both language and literacy.

v. Use of Technology in Teaching:

- Technology was acknowledged for encouraging responsible behaviors and higher-order thinking skills. PSTs utilized technology for blending sounds, with challenges noted, such as missed steps.

vi. Professional Development and Support:

- Collaboration between colleges and schools was emphasized for support and motivation, with a suggestion to prioritize government college students.
- Recommendations include collaboration between mentors and lecturers, clear communication, and addressing knowledge gaps in teaching.

vii. Cooperation and Collaboration between Colleges and Schools:

- Collaboration between colleges and schools was highlighted for effective guidance and support of PSTs, emphasizing knowledge and resource sharing.

vii. Feedback and Suggestions for Improvement:

- Collaboration facilitated additional training, enhancing uniformity in instruction.
- Suggestions included introducing supplementary materials, observing students beforehand, and teaching PSTs to adjust their tone based on the audience's age.

The study findings underscore the recommendations made by student teachers regarding language and literacy instruction. Insufficient time for teaching various skills, especially oral language in second grade, was highlighted, along with a shortage of supplementary reading materials. The study emphasizes the need for more dedicated time for literacy instruction, particularly for competencies like phonemic awareness, and notes the impact of inadequate time on class

exchanges and other subjects. Specific attention is urged for teaching oral English, emphasizing a sequential process and highlighting the impracticality of a 30-minute lesson. The study supports the ideal method of teaching reading, emphasizing three stages with appropriate activities, while acknowledging the persistent shortage of reading materials. In alignment with the findings, student teachers in focus group discussions recommended engaging in micro-teaching and peer teaching for more experience. They also suggested reinforcing handwriting instruction during college education to ensure consistent standards for pupils.

6.2 Recommendations:

Based on the findings, the study made the following recommendations:

- There is need for student teachers to enhance lesson planning skills for language instruction, as the study indicates varied levels of preparedness in this area. At college level, the supervising lecturers need to explicitly explain how to prepare a language lesson plan as well as model a language lesson before engaging the PSTs in peer teaching.
- Mentors should ensure that feedback provided to student teachers is specific and actionable, addressing areas such as sound pronunciation, chart-making, and effective class management.
- The mentorship being provided to the student teachers in government colleges should be extended to student teachers in private colleges.
- Colleges should ensure strengthened collaboration between mentors and lecturers before student teachers' arrival, fostering a supportive environment and addressing knowledge gaps in teaching.
- The college should also facilitate additional training opportunities for school mentors to address challenges identified in pedagogical skills, methodologies, and instructional practices, particularly focusing on areas with missing steps.

6.3 Chapter Summary

The research study aimed to explore student teachers' preparedness and application of pedagogical content knowledge in language and literacy instruction for early-grade learners (grades 1-4) in Kitwe Urban Primary Schools. The investigation unfolded several key findings across various aspects of teaching and mentorship as alluded to. Overall, the study highlights the importance of

comprehensive preparation and ongoing support for student teachers, emphasizing the role of mentorship and collaboration in shaping effective teaching practices for language and literacy instruction aspects of teaching and mentorship.

REFERENCES

Ali, M. A. (2000). Supervision for teacher development: an alternative model for Pakistan. *International Journal of Educational Development*, *20*(3), 177-188.

Amobi, F. (2006). Making it real: Promoting novice teachers' critical perspectives on educational issues through structured debates. *Journal of Teaching and Learning*, *4*(2).

Ariati, N. P. P., Ni, N. P., & Suarnajaya, I. W. (2018). Jolly phonics: effective strategy for enhancing children English literacy. In *SHS Web of Conferences* (Vol. 42). EDP Sciences.

Australia, E. C. Australian Curriculum Assessment and Reporting Authority.(2011). *Foundations for learning: Relationships between the Early Years Learning Framework and the Australian Curriculum*.

Ball, S. (2009). Privatising education, privatising education policy, privatising educational research: Network governance and the "competition state". Journal of Education Policy, 24(1), 83–99.

Beal, J. (2020). University American Sign Language (ASL) second language learners: Receptive and expressive ASL performance. *Journal of Interpretation*, *28*(1), 1.

Best, J.W. and Khan, J.V. (2006). Research in Education (10thed).Chicago: Pearson.

Bhola, H. S., & Gómez, S. V. (2008). Signposts to literacy for sustainable development. *UNESCO Institute for Lifelong Learning. Haettu sivulta http://unesdoc. UNESCO. Org/images/0015/001595/159540e. Pdf*, *14*, 2014.

Black, D. (2010). *The behavior of law: Special edition*. Emerald Group Publishing.

Bloch, B., & Trager, G. L. (1942). Outlines of linguistic analysis. *(No Title)*.

Boddy, C. R. (2016). Sample size for qualitative research. *Qualitative market research: An international journal*, *19*(4), 426-432.

Bogdan, R. C., & Biklen, S. K. (1998). Foundations of qualitative research in education. *Qualitative research in education: An introduction to theory and methods*, *1*, 48.

Borg, W. R. (1963). GRE aptitude scores as predictors of GPA for graduate students in education. *Educational and Psychological Measurement*, *23*(2), 379-382.

Borti, A. M. (2019). *Ghanaian Preservice Teachers' Content Knowledge and Pedagogical Content Knowledge in Reading and Writing*. University of Wyoming.

Branton, B. (1999). Visual literacy literature review. *Retrieved December*, *26*, 2001.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101.

Braun, V., & Clarke, V. (2012). *Thematic analysis*. American Psychological Association.

Bryman, A. (2008). Why do researchers integrate/combine/mesh/blend/mix/merge/fuse quantitative and qualitative research. *Advances in mixed methods research*, *21*(8), 87-100.

Cameron, L. (2001). *Teaching languages to young learners*. Cambridge university press.

Chileshe, C. A., Mkandawire, S. B. & Tambulukani, G. K. (2018). Primary Reading Programme Versus Primary Literacy Programme: Exploring their Similarities and Differences. Journal of Lexicography and Terminology, 2 (2), 77-102.

Chris J., Lloyd S., & Wernham S, (1989). Jolly Phonic: Jolly Future. UK: Buckhurst Hill, Essex.

Clark, S. K., Helfrich, S. R., & Hatch, L. (2017). Examining preservice teacher content and pedagogical content knowledge needed to teach reading in elementary school. *Journal of Research in Reading*, *40*(3), 219-232.

Cochran-Smith, M. (2003). The multiple meanings of multicultural teacher education: A conceptual framework. Teacher Education Quarterly, 30(2), 7–26 Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Crystal, D. (1987). Towards a 'bucket'theory of language disability: Taking account of interaction between linguistic levels. *Clinical Linguistics & Phonetics*, *1*(1), 7-22.

Darling-Hammond, L. (2008). "Teacher learning that supports student learning." Teaching for intelligence 2(1): 91-100

Darling-Hammond, L., Holtzman, D., Jin Gatlin, S., & Vasquez Heilig, J. (2005). Does teacher preparation matter? Evidence about teacher certification. Teach for America and teacher effectiveness. Education Policy Analysis Archives, 13(42), 42–48.

Deming, W. E. (1987). Improving the quality of Education: W. Edwards Deming and Effective Schools. *Contemporary Education Review*, *2*(3), 423-433. Educational Review, 57, 1–22

Emiliasari, R. N. (2019). Lesson planning in EFL classroom: A case study in lesson plan preparation and implementation. *Wiralodra English Journal*, *3*(2), 367-375.

Fang, Z. (2014). Preparing content area teachers for disciplinary literacy instruction: The role of literacy teacher educators. Journal of Adolescent & Adult Literacy, 57(6), 444–448.

Fang, Z. (2020). Toward a linguistically informed, responsive and embedded pedagogy in secondary literacy instruction. Journal of World Languages, 6(1–2), 70–91.

Fang, Z., & Pace, B. G. (2013). Teaching with challenging texts in the disciplines: Text complexity   and close reading. Journal of Adolescent & Adult Literacy, 57(2), 104–108.   https://doi.org/10. 1002/JAAL.229 Fenstermacher, G. D. (1994). Chapter 1: The knower and the known: The nature of knowledge in research on teaching. Review of Research in Education, 20(1), 3–56

Fernandez, C. (2014). Knowledge Base for Teaching and Pedagogical Content Knowledge (Pck): Some Useful Models and Implications for Teachers' training. *Problems of Education in the 21st Century*, *60*(1), 79-100.

Gatbonton, E. (2008). "Looking beyond teachers' classroom behaviour: Novice and experienced ESL teachers' pedagogical knowledge." Language Teaching Research 12(2): 161-182

Gathercole, V. C. M., Thomas, E. M., Kennedy, I., Prys, C., Young, N., Viñas Guasch, N. & Jones, L. (2014). Does language dominance affect cognitive performance in bilinguals? Lifespan evidence from preschoolers through older adults on card sorting, Simon, and metalinguistic tasks. *Frontiers in psychology*, *5*, 11.

Gess-Newsome, J., et al. (2016). "Teacher pedagogical content knowledge, practice, and student achievement." International Journal of Science Education: 1-20.

Gilbert, J., & Graham, S. (2010). Teaching writing to elementary students in grades 4–6: A national survey. *The elementary school journal*, *110*(4), 494-518.

Greenhalgh, T. (2015). Higher Education Governance as Language Games: A Wittgensteinian Case Study of the Breakdown of Governance at the London School of Economics 2004–2011. *Higher Education Quarterly*, *69*(2), 193-213.

Griffin, Z. M., & Ferreira, V. S. (2006). Properties of spoken language production. In *Handbook of psycholinguistics* (pp. 21-59). Academic Press.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of qualitative research*, *2*(163-194), 105.

Gudmundsdottir, S. (1987). Pedagogical Content Knowledge: Teachers' Ways of Knowing.

Gudmundsdottir, S., & Shulman, L. (1987). Pedagogical content knowledge in social studies. *Scandinavian Journal of Educational Research*, *31*(2), 59-70.

Halim, L., Abdullah, S. I. S. S., & Meerah, T. S. M. (2014). Students' perceptions of their science teachers' pedagogical content knowledge. Journal of Science Education and Technology, 23(2),   227–237. https://doi.org/10.1007/s10956-013-9484-

Herman, K. A. (2010). Educational and demographic variables and their relation to teachers'

Howard, W. L., Heron, T. E., Ellis, D. E., & Cooke, N. L. (1986). Teaching first grade peer tutors to use verbal praise on an intermittent schedule. Education and treatment of children, 9, 5-15.

Hsiang, T. P., & Graham, S. (2016). Teaching writing in grades 4–6 in urban schools in the Greater China Region. *Reading and Writing*, *29*, 869-902.

Hudson, P. (2007). "Examining mentors' practices for enhancing preservice teachers' pedagogical development in mathematics and science." Mentoring & Tutoring 15(2): 201-217

Hulme, D. (2000). Impact assessment methodologies for microfinance: theory, experience and better practice. *World development*, *28*(1), 79-98.

International Literacy Association. (2018). Standards for the preparation of literacy

Johnson, B., Weber, A., & Ying, C. (2021). USAID Education Progress Report, 2018-2021. *US Agency for International Development*.

Kane, T. J., Taylor, E. S., Tyler, J. H., & Wooten, A. L. (2011). Identifying effective classroom practices using student achievement data. *Journal of human Resources*, *46*(3), 587-613.

Karkar Esperat, T. M. (2022). Literacy instructional coaching for in-service teachers through a community-engaged partnership. International Journal of Mentoring and Coaching in Education, 11(1), 14–34

Karkar Esperat, T. M. (2023). The Pedagogical Content Knowledge of a Multiliteracies Survey Instrument for Preservice Teachers That Meets the Needs of Diverse Populations. *The Teacher Educator*, *58*(4), 406-427.

Kiger, M. E., & Varpio, L. (2020). Thematic analysis of qualitative data: AMEE Guide No. 131. *Medical teacher*, *42*(8), 846-854. Knowledge of literacy (Doctoral dissertation). Available from ProQuest Dissertations

Kombo, D. K., & Tromp, D. L. A. (2006). Project and thesis writing: An introduction. *Pauline"s Publications Africa*.

König, J., et al. (2016). "Teachers' professional knowledge for teaching English as a foreign language assessing the outcomes of teacher education." Journal of teacher education 67(4): 320-337

König, J., et al. (2016). "Teachers' professional knowledge for teaching English as a foreign language assessing the outcomes of teacher education." Journal of teacher education 67(4): 320-337

Krueger, R. A., & Casey, M. A. (2002). *Designing and conducting focus group interviews* (Vol. 18).

Ladson-Billings, G. (1994). The dream keepers: Successful teachers of African American children. Jossey-Bass

Lee, J., D'sa, N., & Zuilkowski, S. S. (2020). Integrating new knowledge into everyday practices: teacher pedagogy in early grade literacy in rural Mozambique. *Literacy*, *54*(3), 111-122.

Levine, A. (2005). Educating school leaders. The Education Schools Project.

Levine, A. (2006). Educating school teachers. The Education Schools Project

Linn, M.C., (2006). *The Knowledge Integration Perspective on Learning and Instruction*. Sawyer (Ed.). In the Cambridge Handbook of the Learning Sciences. Cambridge University Press.

Liu, S. (2013). "Pedagogical content knowledge: A case study of ESL teacher educator." English Language Teaching 6(7): 128.

Lloyd. S., (2010). The Phonics Handbook. England: Jolly Learning Ltd,

Luft, J. A., Navy, S. L., Wong, S. S., & Hill, K. M. (2022). The first 5 years of teaching science: The beliefs, knowledge, practices, and opportunities to learn of secondary science teachers. Journal of Research in Science Teaching, 1–34. https://doi.org/10.1002/tea.21771

Mac Iver, M. A., Vaughn, E. S., & Katz, G. (2005). A teacher for every classroom: New teachers in the Baltimore City public schools, 1999–2004. Baltimore, MD: Abell Foundation.

Macmillan, 87

Magnusson, S., Krajcik, J., & Borko, H. (1999). Nature, sources, and development of pedagogical content knowledge for science teaching. *Examining pedagogical content knowledge: The construct and its implications for science education*, 95-132.

Mapulanga, T., Nshogoza, G., & Yaw, A. (2023). Students' Perceptions of Biology Teachers' Enacted Pedagogical Content Knowledge at Selected Secondary Schools in Lusaka Province of Zambia. *International Journal of Learning, Teaching and Educational Research*, *22*(1).

Maxwell, N., Hilaski, D., & Whelan-Kim, K. (2018). Enhancing teacher education through field based literacy laboratories. The Reading Professor, 41(1), 23–29.

Meki Kombe, C. L., & Herman, C. (2017). Can education innovations be sustained after the end of donor funding? The case of a reading intervention programme in Zambia. *Educational Review*, *69*(5), 533-553.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.

Mills, K. A. (2010). *The Multiliteracies classroom* (Vol. 21). Multilingual Matters.

Mkandawire, S. B. (2019). Selected Common Methods and Tools for Data Collection in Research. In: M. K. Banja (Ed.). Selected Readings in Education Volume 2. (Pp.143-153). Lusaka: Marvel Publishers.

Mkandawire, S.B., Zuilkowski, S.S., Mwansa, J.M., & Manchishi, P. C. (2023). Instructional strategies used by teachers in multilingual classes to help non-speakers of the language of instruction learn initial reading skills in Zambia. International Multilingual Research Journal, 17(3), 1-26. DOI: [10.1080/19313152.2023.2255777](10.1080/19313152.2023.2255777)

Mkandawire, S. B. (2018). Literacy versus Language: Exploring their Similarities and Differences. Journal of Lexicography and Terminology, 2 (1), 37-55. ISSN Numbers: Online 2664-0899; Print 2517-9306

Mkandawire, S. B. and Daka, H. (2018). Cultural Preservation Literacy in Zambia: A Case Study of the Lala People of Serenje District. Multidisciplinary Journal of Language and Social Sciences Education, 1(1), 139-174.

Moats, L. (2009). Knowledge foundations for teaching reading and spelling. Reading and

Moats, L. C., Carreker, S., Davis, R., Meisel, P., Spear-Swerling, L. & Wilson, B. (2010) Knowledge and practice standards for teachers of reading (Baltimore, MD, International Dyslexia Association).

Montoya, S. (2018). "Defining literacy." In *GAML Fifth meeting*, pp. 17-18. 2018.

Morine-Dershimer, G., & Kent, T. (1999). The complex nature and sources of teachers' pedagogical knowledge. In *examining pedagogical content knowledge: The construct and its implications for science education* (pp. 21-50). Dordrecht: Springer Netherlands.

Mulenga, I. M. (2016). Rethinking the role of teacher education in Zambia: quality curriculum designing as a missing link in explaining teacher's pedagogical content knowledge.

New London Group. (1996). A pedagogy of Multiliteracies: Designing social futures. Harvard Educational Review, 66(1), 60–93

Nation, I. S., & Nation, I. S. P. (2001). *Learning vocabulary in another language* (Vol. 10). Cambridge: Cambridge university press.

Nucera, S., Tartarisco, G., Epasto, A., Smeriglio, D., Mazzeo, A., Pioggia, G, & Anastasi, A., (2018). *Handbook of Research on Mobile Devices and Smart Gadgets in K-12 Education*, Italy.

Nzomo, J., Kariuki, M. & Guantai, L. (2001). The quality of primary education: some policy suggestions based on a survey of schools: Kenya (UNESCO, International Institute for Educational Planning)

Onyamwaro, A. A. O. (1990). A study of factors that affect the teaching of reading in Kiswahili in lower primary classes in selected schools, Kisii municipality. Unpublished master's thesis, Kenyatta University, Nairobi, Kenya.

Owodally, A. M. A. (2014). Receptive English vocabulary in a foreign language context: A case study of preschoolers in Mauritius. *Journal of Early Childhood Literacy*, *14*(2), 198-239.

Pandey, S. (2009). Professionalization of teacher education in India: A critique of teacher education curriculum reform and its effectiveness. New Delhi: NCERT, 2009, ch.5pp.78-98.

Perkins, D. N. (2013). *Knowledge as design*. Routledge.

Piasta, S. B., Connor, C. M., Fishman, B. J., & Morrison, F. J. (2009). Teachers' knowledge of literacy concepts, classroom practices, and student reading growth. *Scientific Studies of Reading*, *13*(3), 224-248.

Polkinghorne, D. E. (2005). Language and meaning: Data collection in qualitative research. *Journal of counselling psychology*, *52*(2), 137. Professionals 2017. Newark, DE: Author. Publishing database. (UMI No. 3405681) Researcher, 15, 4–14.

Rai, N., & Thapa, B. (2015). A study on purposive sampling method in research. *Kathmandu: Kathmandu School of Law*, *5*(1), 8-15.

Risko, V. J., Roller, C. M., Cummins, C., Bean, R. M., Block, C. C., Anders, P. L., & Flood, J. (2008). A critical analysis of research on reading teacher education. Reading Research Quarterly, 43(3), 252–288.

Rosenshine, B., & Stevens, R. (1986). Teaching functions. *Handbook of research on teaching*, *3*, 376-391.

Roth, H., & Horton-Krüger, G. (2012). The art of lesson preparation. In *Teaching As A Reflective Practice* (pp. 127-138). Routledge.

Rust, F. O. (2010). Shaping new models for teacher education. Teacher Education Quarterly, 37(2), 5–18.

Saeli, M., Perrenet, J., Jochems, W. M., & Zwaneveld, B. (2011). Teaching programming in Secondary school: A pedagogical content knowledge perspective. *Informatics in education*, *10*(1), 73-88.

Salaria, N. (2012). Meaning of the term descriptive survey research method. *International journal of transformations in business management*, *1*(6), 1-7.

Sandelowski, M. (2004). Using qualitative research. *Qualitative health research*, *14*(10), 1366-1386. Says in literacy day message. Retrieved from https://www.un.org/press

Serpell, R., & Simatende, B. (2016). Contextual responsiveness: An enduring challenge for educational assessment in Africa. *Journal of Intelligence*, *4*(1), 3.

Shayne, P., Gallahue, F., Rinnert, S., Anderson, C. L., Hern, G., & Katz, E. (2006). Reliability of a core competency checklist assessment in the emergency department: the Standardized Direct Observation Assessment Tool. *Academic Emergency Medicine*, *13*(7), 727-732.

Shing, C. L., Saat, R. M., & Loke, S. H. (2018). The Knowledge of Teaching "Pedagogical Content Knowledge (PCK). *MOJES: Malaysian Online Journal of Educational Sciences*, *3*(3), 40-55.

Shulman, L. (2013). Those who understand: Knowledge growth in teaching, The Journal of Education, 193(3), 1–11.

Shulman, L. S. (1986a). The paradigms and research programs in the study of teaching. In M.C.

Shulman, L. S. (1986b). Those who understand: Knowledge growth in teaching. Educational

Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. Harvard

Sichula, N. K., & Genis, G. (2019). Pedagogical practices in non-formal adult literacy classes in Zambia. *International review of education*, *65*, 879-903.

Sintema, E. J., & Phiri, P. A. (2018). An investigation of Zambian mathematics student teachers' technological pedagogical content knowledge (TPACK). *Journal of Basic and Applied Research International*, *24*(2), 70-77.

Street, B. (1997). The implications of the "new literacy studies" for literacy education. English in Education, 31(3), 45–59.

Tala Michelle Karkar Esperat (2022): The Pedagogical Content Knowledge of a Multiliteracies Survey Instrument for Preservice Teachers That Meets the Needs of Diverse Populations, the Teacher Educator, DOI: 10.1080/08878730.2022.2147615

Tala Michelle Karkar Esperat (2022): The Pedagogical Content Knowledge of a Multiliteracies Survey Instrument for Preservice Teachers That Meets the Needs of Diverse Populations, the Teacher Educator, DOI: 10.1080/08878730.2022.2147615

Tamir, P. (1988). Subject matter and related pedagogical knowledge in teacher education. *Teaching and teacher education*, *4*(2), 99-110.

Thomas, G. (2021). How to do your case study (3rd Ed.). Sage.

Topping, K. J. (2013). Trends in peer learning. *Developments in Educational Psychology*, 53-68.

United Nations. (2005). "Literacy is at the heart of sustainable development," secretary-general

Vygotsky, L., & Cole, M. (2018). Lev Vygotsky: Learning and social constructivism. *Learning Theories for Early Years Practice. UK: SAGE Publications Inc*, 68-73.

Walsh, K. (2001). Teacher certification reconsidered: Stumbling for quality. Abell Foundation

    Wittrock (Ed.), Handbook of research on teaching, (3rd ed., pp. 3–36). New York, NY:

Zua, B. (2021). Literacy: Gateway to a world of exploits. *International Journal of Education and Literacy Studies*, *9*(1), 96-104.

Zulu, N. (2016). *Preschool teacher's pedagogical content knowledge of pre-mathematics: the case of selected schools in Lusaka province of Zambia* (Doctoral dissertation, University of Zambia).

APPENDICES

Appendix A: Focus Group Protocol for Student Teachers
Introduction

- I thank you for agreeing to do this interview. My name is Makisa Kaponda, a student at the University of Zambia.

- As per the University requirement, I am conducting a study on students' perceptions of their preparedness to teach early grade literacy ….. You have been selected to be part of this study by virtue of your being on School Experience.

- Therefore, the purpose of this interview is to learn more about your perceptions with and recommendations related to the teaching of early grade literacy…..

- The interview will last about 1 hour.

Ground rules

1. First, there is no right or wrong answers. We are interested in your opinions and perceptions on students' preparedness to teach early grade literacy.

2. Second, you do not have to agree with everyone else in this room if that is not how you really feel. We expect people will have different views on these questions.

3. Third, we want you to feel comfortable saying good things as well as critical things. We are not here to promote a particular way of thinking. We just want to understand your viewpoints.

4. Fourth, we ask that you talk one at a time.

5. Consider other ground rules (such as turning cell phones off if possible) or opening it up to the group to suggest other ground rules (time permitting).

Questions

1. I would like to start by learning more about each other. Please you introduce yourself and provide a little background on your teaching experience of literacy?
2. What would you say about your preparedness to teach early grade literacy?
3. What comes to your mind when you think of Pedagogical Content Knowledge (PCK)?
4. How well do you think you understand literacy and language as a subject matter?
5. How well do you think you understand the pedagogy, or the practices teachers use to teach literacy and language?
6. How would you describe a well-structured literacy lesson?
7. How would you describe a well-structured language lesson?
8. In what way has the knowledge you have acquired at college helped you to handle an early grade literacy class effectively?
9. What have you learned in your school experience that you did not learn in college?
10. What recommendations do you have for improving the pre-service primary teacher education program?

11. How would you describe your experience with your mentor teacher?
    a. Observations and feedback
    b. Relationship
    c. Knowledge learned
12. Do you have any other feedback or suggestions?

Appendix B: Interview Protocol with the Mentors
Introduction

- I thank you for agreeing to do this interview. My name is Makisa Kaponda, a student at the University of Zambia.

- As per the University requirement, I am conducting a study on students' perceptions of their preparedness to teach early grade literacy and language. You have been selected to be part of this study by virtue of your position as mentor of students on School Experience.

- Therefore, the purpose of this interview is to learn more about your perceptions with and recommendations related to the teaching of early grade literacy.

- The interview will last about 1 hour.

Ground rules

- Everything you tell me was confidential. To protect your privacy, I will not connect your name with anything that you say.

- At any time during our conversation, please feel free to let me know if you have any questions or if you would rather not answer any specific question. You can also stop the interview at any time for any reason.

- Please remember that I want to know what you think and feel and that there is no right or wrong answers.

Questions

1. I would like to start by learning more about each other. Can you introduce yourself and provide a little background on your mentorship experience of students teaching literacy?
2. What comes to your mind when you think of Pedagogical Content Knowledge (PCK)
3. Did you learn any new literacy and language content from your student teachers? If so, what did you learn?
4. Did you learn any new literacy and language pedagogical practices? If so, what did you learn?
5. How do you feel about student teachers' preparedness in their pedagogical content knowledge?
    a. Do you feel that they had sufficient knowledge in terms of content? (Probe mentors to elaborate.)
    b. Do you feel that they have sufficient knowledge in terms of pedagogy? (Probe mentors to elaborate.)
6. (If the mentor feels that their student teachers had insufficient knowledge of content and/or pedagogy)-What do you think could have created this knowledge gap?
7. How well do you think such knowledge gaps mentioned in question 3 above could be minimized?

8. What suggestions would you make for the college so that student teachers are more adequately prepared to teach early grade literacy?
9. Do you have any other feedback or suggestions?

Appendix C: Literacy Observation checklist tool

Elements of Pedagogic Content Knowledge in Literacy Lesson						
Lesson start time: Observation: Lesson end time: Language of instruction: Observer: Number of students in the class:				Date: School: Teacher:		

Instructional area/	Indicators/Elements		Comments				
LESSON FOCUS/ CONTENT			Exemplary	Satisfactory	Need Improvement	Unsatisfactory	Unobserved
			3	2	1	0	0
	Pedagogic knowledge	Instruction is focused on PLP-ZL/Literacy in English development modelling the correct technique/task as required by the topic (literacy tasks that might include fluent reading, writing a story, segmenting words into sounds)					
		Skills to be taught are sequenced logically					
	Content knowledge	Student teacher applied their content knowledge throughout the lesson					
		Student teacher addresses learners misconceptions and adapted instructions as needed					
		Student teacher used content appropriate					

				Satisfactory 2 =	Need improvement 1 =	Unsatisfactory 0 =	Unobserved 0 =
		constructive assessment/s strategies for teaching literacy or language					

Lesson focus/content
Overall, content and pedagogy is focused on PLP in Z/L and Literacy in English

Exemplary 3 =				Satisfactory 2 =	Need improvement 1 =	Unsatisfactory 0 =	Unobserved 0 =
PLANNING THE LESSON	**Content knowledge**	Design of the lesson is focused (teacher stays on topic and student activities are aligned to the content/skills)					
		Writing the learning outcomes					
		Learning outcomes are consistent with the class syllabus					
		Learning outcomes are specific, relevant, measurable, attainable, realistic and time bound					
		Learning outcomes are aligned with the topic					
		Writing the rationale					
		Content of lesson explained in the lesson plan					
		Value and relevance of the lesson to life explained in the lesson plan					
		Flow of rationale statement in the lesson plan is sound and logical					

		Position of the lesson (in a series) stated				
	Pedagogic knowledge	**Planning how to use teaching and learning resources/materials (TLMs)**				
		Lesson plan contains details about how to use TLMs throughout the lesson				
		The planned TLM materials are appropriate and relevant to the topic of the lesson				
		The lesson plan describes how the planned TLMs can enhance student learning				
		The lesson plan explains the way the student teacher will model/demonstrate how to use the TLMs				
		Planning how to activate background knowledge				
		The lesson plan show the student teacher plans to activate the learner's background knowledge/skills				

		The lesson plan shows how the student teacher plans to introduce the lesson topic using strategies relevant to the lesson and grade appropriate (e.g. reading aloud, telling stories, revision of previous lesson, presenting pictures or real objects to encourage discussion)					
		The lesson plan show and describes how the student teacher will explicitly introduce the lesson topic					
		The lesson plan describes how the student teacher will summarise the lesson in line with learning outcomes					
	Content knowledge	**Background Knowledge**					
		For lower primary grades: The lesson plan observes appropriate sequence of reading components: phonological awareness, phonics, fluency, vocabulary, reading/listening comprehension					
		The lesson plan includes writing activities (e.g. handwriting					

		skills, writing words and sentences, composition)					
		The plan includes balanced literacy instructional systematic explicit instruction, opportunities to engage in hearing and in reading meaningful text, gradual release model when appropriate					

Planning the lesson

Overall, student teacher chooses appropriate content concepts with ideal teaching/ learning materials (TLMs) and writes clearly learners' learning outcomes

Exemplary 3 =				Satisfactory 2 =	Need improvement 1 =	Unsatisfactory 0 =	Unobserved 0 =
DELIVER Y OF INSTRUCT ION	**Pedagogic knowledge**	The objective/s of the lesson and the expectations of the teacher are communicated at the start of the lesson.					
		Previous lessons and skills are reviewed.					
		Teacher models skills step-by-step					
		Language used is clear, simple and concise					
		Examples and non-examples are used to illustrate how and when to use a new skill					
		Provide guided and supported practice					
		Teacher elicits responses and participation from all students as a group					

		Encourages students to express themselves in a language they are most comfortable with					
		Teacher adjusts the lesson in response to students' progress towards the skill					
		Provide immediate affirmative and corrective feedback.					
		Teacher helps learners make connections with their prior knowledge and experiences					
		Teacher delivers lesson at a brisk pace but allows students time to think					
		Students independently apply what they have learned					
		Using appropriate instructional strategies					
		The student teacher appropriately uses the instructional strategies identified in the lesson plan					
		The student teacher uses the gradual release model correctly (l do, we do, you do) during the lesson					

		The student teacher uses a blend of whole group, small group, pair, and/or independent activities, according to the topic and learning outcomes as identifies in the lesson plan					
		The student teacher uses multiple ways to communicate the lesson to engage different types of learners (e.g. visual, auditory, reading/writing, and kinesthetic or body movements)					
		The student teacher provided opportunities for students to demonstrate their understanding through multiple channels (e.g. written, illustrations, words drama)					
		The student teacher conducts assessments of student literacy (e.g. phonological awareness, Concepts of print, letter knowledge, phonemic awareness, decoding skills, oral reading fluency, vocabulary and comprehension and learning					

		throughout lesson on all lesson objectives (e.g. Spot checking, group response).					

Delivery of instruction					
Overall, the student teacher is able to provide support to the pupils using literacy instruction outcomes					
Exemplary 3 =		Satisfactory 2 =	Need improvement 1 =	Unsatisfactory 0 =	Unobserved 0 =

Definitions of Ratings = 0 - 3

a) Exemplary (E) = 3
   - Meets expectations for performance and fully demonstrates competency in most or all teaching standards
   - Addresses the needs of individual students (beyond the whole group)
   - Uses a strong foundation of knowledge skills, and abilities to innovate and enhance their classroom
   - Empowers and influences others to emulate
b) Satisfactory (S) = 2
   - Addresses the needs of groups of learners but individual
   - Integrates knowledge skills, and abilities needed for effective classroom instruction
   - Consistently strives to improve his/her instructional and professional practice
   - Demonstrates purposefulness, flexibility and consistency
c) Need Improvement (NI) = 1
   - Works to utilise his/her growing knowledge and skills
   - Attempts to meet the needs of the whole group
   - Strives to improve his/her instructional and professional practice
d) Unsatisfactory (uS) = 0
   - Fails to demonstrate minimum performance expectations
   - Not effectively meeting the needs of his/her learners
   - Needs more than a plan, needs ongoing intensive support
e) Unobserved (uO) = 0
   - Not observed due to certain reasons

(Adapted from, Hughes, C. A., & Riccomini, P. J. 2018). Use Explicit Instruction.

Appendix D: Language Instruction Observation checklist tool
This observation tool articulates the vision for skillful language teaching and learning, grounded in research about how student teachers best teach to make sense of what they know. Purposes include: 1) preparing lessons; 2) instructional practices; 3) comprehensible input; 4) strategies; 5) interaction; 6) practice/application; 7) lesson delivery and 8) review/evaluation.

Lesson start time: **Date:**

Observation: **School:**

Lesson end time: **Teacher:**

Language of instruction:

 Observer:

Number of students in the class:

Instructional area	comments				
Preparation	**Exemplary**	**Satisfactory**	**Need improvement**	**Unsatisfactory**	**Unobserved**
	3	**2**	**1**	**0**	**0**
Write content objectives clearly for students					
Write language objectives clearly for students					
Choose content concepts appropriate for age and educational background level of students					
Identify supplementary materials to use (graphs, models, visuals)					
Adapt content (e.g., text, assignment) to all levels of student proficiency.					
Plan meaningful activities that integrate lesson concepts with language practice opportunities for reading, writing, listening, and/or speaking.					

Lesson preparation					
Overall, student teacher chooses appropriate content concepts with ideal teaching/ learning materials (TLMs) and writes clearly learners' learning outcomes					
Exemplary 3 =		Satisfactory 2 =	Need improvement 1 =	Unsatisfactory 0 =	Unobserved 0 =
Instruction	**Background**				
	Explicitly link concepts to students' backgrounds and experiences.				
	Explicitly link past learning and new concepts.				
	Emphasize key vocabulary (e.g., introduce, write, repeat, and highlight) for and with students.				
Instructional background					
Overall, student teacher is able to explicitly link prior experiences to new content knowledge					
Exemplary 3 =		Satisfactory 2 =	Need improvement 1 =	Unsatisfactory 0 =	Unobserved 0 =
Comprehensible input					
	Use speech appropriate for students' proficiency level (e.g., slower rate, enunciation, and simple sentence Structure for beginners).				
	Explain academic tasks clearly.				

	Use a variety of techniques to make content concepts clear (e.g., modeling, visuals, hands-on activities, demonstrations, gestures, body language					

Comprehensible input					
Overall, the student teacher is able to explicitly explain new content knowledge					
Exemplary 3 =		Satisfactory 2 =	Need improvement 1 =	Unsatisfactory 0 =	Unobserved 0 =

Strategies

	Provide ample opportunities for students to use strategies, (e.g., problem solving, predicting, organizing, summarizing, categorizing)					
	Use scaffolding techniques consistently (providing the right amount of support to move students from one level of understanding to a higher level) throughout lesson.					
	Use a variety of question types including those that promote higher-order thinking skills throughout the lesson (e.g., literal, analytical, and interpretive questions).					

Strategies

Overall, the student teacher uses the appropriate methods and strategies					
Exemplary 3 =		Satisfactory 2 =	Need improvement 1 =	Unsatisfactory 0 =	Unobserved 0 =

Interaction

	Provide frequent opportunities for interaction and discussion between teacher/student and among students about lessons concepts, and encourage elaborated responses.				
	Use group activities that support language and content objectives of the lesson.				
	Provide sufficient wait time for student responses consistently.				
	Give ample opportunities for students to clarify key concepts in Ll as needed with aide, peer, or Ll text.				

Interaction
Overall, student teacher is able to use various language lesson accommodations and class activities to achieve the learning outcomes

Exemplary 3 =		Satisfactory 2 =	Need improvement 1 =	Unsatisfactory 0 =	Unobserved 0 =

Practice/Application

	Provide hands-on materials and/or manipulatives for students to practice using new content knowledge.				
	Provide activities for students to apply content and language knowledge in the classroom				
	Provide activities that integrate all language skills (i.e., reading, writing, listening, and speaking).				

Practice/Application
Overall, the student teacher engage the learners in practice and application of new content knowledge integrating all the language skills

Exemplary		Satisfactory	Need improvement	Unsatisfactory	unobserved

Lesson delivery

	Support content objectives clearly.					
	Support language objectives clearly.					
	Engage students approximately of the period (most students taking part and on task throughout the lesson).					
	Pace the lesson appropriately to the students' ability level.					

Lesson delivery
Overall, the student teacher is able to provide support to the pupils using language outcomes

Exemplary 3 =			Satisfactory 2 =	Need improvement 1=	Unsatisfactory 0 =	Unobserved 0 =

Review/Evaluation

	Give a comprehensive review of key vocabulary.					
	Give a comprehensive review of key content concepts.					
	Provide feedback to students regularly on their output (e.g., language, content, work).					
	Conduct assessments of student comprehension and learning throughout lesson on all lesson objectives (e.g. Spot checking, group response).					

Review/Evaluation
Overall, student teacher is able to evaluate and provide assessments for the lesson based on learning outcomes

Exemplary 3 =			Satisfactory 2 =	Need improvement 1 =	Unsatisfactory 0 =	Unobserved 0 =

Definitions of Ratings = 0 - 3

    f)   Exemplary (E) = 3
       -   Meets expectations for performance and fully demonstrates competency in most or all teaching standards

- Addresses the needs of individual students (beyond the whole group)
- Uses a strong foundation of knowledge skills, and abilities to innovate and enhance their classroom
- Empowers and influences others to emulate

g) Satisfactory (S) = 2
- Addresses the needs of groups of learners but individual
- Integrates knowledge skills, and abilities needed for effective classroom instruction
- Consistently strives to improve his/her instructional and professional practice
- Demonstrates purposefulness, flexibility and consistency

h) Need Improvement (NI) = 1
- Works to utilise his/her growing knowledge and skills
- Attempts to meet the needs of the whole group
- Strives to improve his/her instructional and professional practice

i) Unsatisfactory (uS) = 0
- Fails to demonstrate minimum performance expectations
- Not effectively meeting the needs of his/her learners
- Needs more than a plan, needs ongoing intensive support

j) Unobserved (uO) = 0
- Not observed due to certain reasons

(Adapted from, Hughes, C. A., & Riccomini, P. J. 2018). Use Explicit Instruction.

Appendix E – Ethical Clearance

THE UNIVERSITY OF ZAMBIA
DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

APPROVAL OF STUDY

IORG No. 0005376
HSSREC IRB No. 00006464

08th June, 2023

REF NO. HSSREC:-2023- MAY – 023

Ms. Makisa Kaponda,
University of Zambia,
School of Education,
Lusaka.

Dear, Ms. Kaponda,

RE: "INVESTIGATING STUDENT TEACHER'S PEDAGOGIC CONTENT KNOWLEDGE IN LITERACY AND LANGUAGE: A CASE OF KITWE URBAN PRIMARY SCHOOLS"

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:-2023- MAY – 023
Approval and Expiry Date	Approval Date: 8th June, 2023	Expiry Date: 7th June, 2024
Protocol Version and Date	Version - Nil.	7th June, 2024
Information Sheet, Consent Forms and Dates	☐ 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		

Specific conditions will apply to this approval. As Principal Investigator it is your responsibility to ensure that the contents of this letter are adhered to. If these are not adhered to, the approval may be suspended. Should the study be suspended, study sponsors and other regulatory authorities was informed.

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 was 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

DR. J. I. Ziwa

ACTING CHAIRPERSON
THE UNIVERSITY OF ZAMBIA HUMANITIES AND
SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE - IRB

cc: Director, Directorate of Research and Graduate Studies
        Assistant Director (Research), Directorate of Research and Graduate Studies
        Assistant Registrar (Research), Directorate of Research and Graduate Studies