STRATEGIES IMPROVING PEDAGOGICAL CONTENT KNOWLEDGE OF ECONOMIC AND MANAGEMENT SCIENCES OF TEACHERS IN LEJWELEPUTSWA DISTRICT

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DECLARATION OF INDEPENDENT WORK

I, **TSELANE LELIMO,** identity number _____ and student number _____, do hereby declare that this research project submitted to the Central University of Technology, Free State for a Master's in Education; and complies with the Code of Academic integrity, as well as well as other relevant policies, procedures, rules and has not been submitted before to any institution by myself of any other person in fulfilment (or partial fulfilment) of the requirements for the attainment of any qualification.

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SIGNATURE OF STUDENT **DATE**

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ABSTRACT

This study investigates strategies for improving the pedagogical content knowledge (PCK) of Economic and Management Sciences (EMS) teachers in primary schools within the Lejweleputswa District, South Africa. Given EMS's foundational role in equipping learners with financial literacy and entrepreneurial skills, deficiencies in teacher PCK directly affect educational outcomes. Despite its curricular importance, EMS is often taught by underqualified teachers lacking specialised training, which negatively impacts learners' comprehension and performance. The study addresses this critical educational challenge by examining the barriers EMS teachers face, including limited subject content knowledge, inadequate professional development, and resource constraints. The research is grounded in social constructivist theory and adopts a qualitative methodology within a transformative paradigm to explore contextual teaching experiences. Data were collected using focus group discussions, semi-structured face-to-face and telephone interviews with 11 participants, including EMS teachers, learners, a principal, and a learning facilitator. Purposive sampling was employed to select participants with direct instructional involvement in EMS at the Grade 7 level.

Thematic analysis revealed four central themes: resource constraints, professional development and training, strategies for learner academic improvement, and learner support mechanisms. The key findings showed that professional learning communities, targeted CPD, mentorship, and collaborative teaching strategies significantly improved teacher efficacy. Teachers in structured peer training programmes reported higher confidence and better learner outcomes. Policy and practice are affected by these findings. The Department of Basic Education should prioritise EMS-focused teacher development and equitable instructional resource access. Additionally, school-based collaborative frameworks can sustain PCK improvement.

Keywords: Pedagogical Content Knowledge (PCK), Economic and Management Sciences (EMS), Teacher Professional Development, Curriculum Implementation, Instructional Strategies

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ACRONYMS

APA	American Psychological Association
CAPS	Curriculum and Assessment Policy Statement
CPD	Continuing Professional Development
DBE	Department of Basic Education
EMS	Economic Management Sciences
ERC	Education Resource Centre
ICT	Information and Communication Technology
LF	Learning Facilitator
NCS	National Curriculum Statement
NPE	National Policy on Education
NSF	National Science Foundation
PCGE	Postgraduate Certificate in Education
PCK	Pedagogical Content Knowledge
PLC	Professional Learning Communities
RNCS	Revised National Curriculum Statement
SBST	School-Based Support Team
SIAS	Screening, Identification, Assessment, and Support
TPCK	Technological Pedagogical Content Knowledge

CHAPTER 1

INTRODUCTORY ORIENTATION

1.1 INTRODUCTION

This study aims to develop strategies that enhance the Pedagogical Content Knowledge (PCK) of teachers of Economic Management Sciences (EMS) in primary schools within the Lejweleputswa district. EMS is a subject that provides learners with entrepreneurial skills, financial knowledge, and practical skills for self-development and societal progress (Venter & Hayidakis, 2021). EMS encompasses various topics, including economy, financial literacy, and entrepreneurship, which are integrated to help learners become economically and financially literate (Venter & Hayidakis, 2021). EMS is one of the key learning areas in the South African curriculum, aiming to equip learners with essential skills, knowledge, and values to participate effectively in the economy and society (Department of Basic Education, 2020). EMS is compulsory for all Grades 7-9 learners and an elective subject for Grades 10-12. The EMS curriculum examined in this research is the Revised National Curriculum Statement (RNCS) for EMS, introduced in 2010 (Department of Basic Education, 2010). The RNCS for EMS emphasises the development of critical thinking, problem-solving, and decision-making skills while applying economic and management science concepts to real-life situations. EMS is divided into three strands: Business Studies, which focuses on the principles of business, entrepreneurship, and management; Economics, which centres on the principles of economics, including microeconomics, macroeconomics, and international trade; and Accounting, which concentrates on the principles of accounting, covering accounting, managerial accounting, and auditing. However, despite the significance of EMS in the South African curriculum, research has indicated that many learners struggle to achieve satisfactory results in it, particularly in the Lejweleputswa district (Department of Basic Education, 2020).

1.2 BACKGROUND OF THE STUDY

To qualify to teach EMS, teachers must have obtained a Bachelor of Education in the Senior Phase, specialising in Economics, Accounting and Business Studies (Tu, 2013). According to Msimanga (2017), universities offer a Postgraduate Certificate in

Education (PGCE) programme, a postgraduate qualification designed to equip teachers with the necessary knowledge, skills, and competencies to teach effectively in South African schools (South African Council for Educators, 2018). PGCE teachers responsible for EMS are expected to possess a profound understanding of the EMS curriculum and pedagogy, as well as the ability to design and implement engaging and effective lessons.

Only in Grade 7 does the syllabus introduce EMS as a subject. Therefore, learners entering the senior phase have limited knowledge of EMS because their learning content does not include background in accounting, business studies, or economics (Msimanga, 2017). This situation can be problematic because the content of EMS–Economics, Business, and Financial Literacy–requires learners to know how to read and write about everyday economics, commercial, and financial matters (Agumba & Dasoo, 2024).

The Department of Basic Education (DBE) has implemented various initiatives to support teachers in enhancing their professional capacity for change and teaching practices, particularly in early mathematics support. These initiatives include teacher development programmes, such as the National Teacher Development Programme, which provides training and support in curriculum design and pedagogy (Department of Basic Education, 2018). Subject advisers have received training from the DEB to support teachers in implementing the EMS curriculum effectively. Furthermore, the DBE provides teachers with Continuing Professional Development (CPD) through ongoing training (Department of Basic Education, 2018).

1.3 PROBLEM STATEMENT

The Lejweleputswa district in the Free State province of South Africa has been identified as one of the areas with poor learner outcomes in EMS (Department of Basic Education, 2020). Research has shown that the quality of teachers is a critical factor in determining learner outcomes (Tu, 2013). However, many primary school EMS teachers lack the PCK essential for effective EMS instruction (Agumba & Dasoo, 2024). PCK refers to the knowledge and skills teachers require to teach specific subjects and topics in a manner that is meaningful and engaging for their learners (Shulman, 1986). The deficiency of PCK among EMS teachers can be attributed to

several factors, including inadequate teacher training, limited resources, and a lack of administrative support.

Furthermore, the EMS curriculum is complex and necessitates teachers to possess a deep understanding of EMS concepts, alongside the ability to apply these concepts to real-life situations (Venter & Hayidakis, 2021). Consequently, many EMS teachers in primary schools find it challenging to provide high-quality instruction, resulting in poor learner outcomes (Department of Basic Education, 2020). To address this issue, it is essential to explore strategies for enhancing the PCK of EMS teachers in primary schools. This study aims to explore the challenges faced by EMS teachers in the district and identify effective strategies for enhancing their PCK. A qualitative approach will be employed for data collection and analysis, providing insights into the challenges faced by EMS teachers and identifying effective strategies for enhancing PCK.

1.4 SIGNIFICANCE OF THE STUDY

The importance of this study lies in its research on developing EMS teachers' PCK in teaching EMS in the classroom. This study could assist teachers regarding how EMS must be taught since it focuses on enhancing the teachers' knowledge and skills required to teach EMS in primary schools (Venter & Hayidakis, 2021).

The significance of this study lies in its ability to enhance teacher capabilities and knowledge of PCK by using effective teaching strategies, thereby improving the quality of teaching and learning in EMS primary schools (Schreuder, 2009). It will also enhance learners' understanding through well-prepared teachers with strong subject knowledge and effective strategies (Koehler & Mishra, 2008). Effective professional knowledge and competence training for teachers can lead to increased teacher confidence and competence in teaching EMS. Furthermore, teachers who have a strong knowledge base and pedagogical skills are better equipped to engage learners and create a positive learning environment (Agumba & Dasoo, 2024). This, in turn, can improve teachers' job satisfaction and retention rates. A study by Agumba and Dasoo (2024) found that teachers who participated in PCK training reported increased confidence in their teaching abilities and a greater understanding of their subject.

Improved PCK can also benefit learners by enhancing their understanding and retention of EMS concepts. When teachers have a deep understanding of the subject

matter, they can present it clearly and meaningfully, making it easier for learners to grasp. Additionally, teachers with a strong PCK are better equipped to identify common misconceptions and provide targeted interventions to support struggling learners. Chen et al. (2019) assert that teachers who receive PCK training better assess economic concepts. Darling-Hammond and Bransford (2005) suggest that the Department of Education's investment in PCK training for EMS teachers can positively impact the education system. Teachers who receive practical training are more likely to stay in the profession and show improved teaching outcomes. Moreover, such teaching can improve learners' performance on standardised assessments and increase overall learners' achievement. Additionally, investing in teacher training can show a commitment to improving educational outcomes, which, in turn, can enhance public confidence in the education system.

To address gaps, the study offers valuable insights into practical approaches to teacher professional development. It aims to influence policies and practices in the teaching of EMS, ultimately contributing to the broader improvement of the education system (Lee & Luft, 2008).

1.5 PRELIMINARY LITERATURE

1.5.1 The Challenges Facing EMS Teachers in Effective Classroom Teaching

Inadequate PCK creates a gap in teachers, resulting in incompetency in teaching EMS effectively. A lack of practical experience exacerbates this gap between theory and practice. As noted, inadequate teacher training can lead to teachers not receiving sufficient training or support in implementing the EMS curriculum, resulting in a lack of confidence and competence in teaching EMS (Mestry, 2019). According to the South African School Council (2018), EMS requires outstanding knowledge in business, entrepreneurship, and economics. Some teachers have not taken commercial subjects in school and lack basic business, economics, and accounting skills. This creates a challenge in teaching learners EMS content that requires commercial application (Msimanga, 2017). They find it challenging to teach EMS, as they often lack content and pedagogical skills (Modise, 2016).

The dilemma of teaching EMS in South Africa is exacerbated by the existing inequality in SA, particularly in terms of unqualified teachers, which raises a serious question

about the preparedness of learners for Grades 8 and 9 (Msimanga, 2017). This problem could be caused by the Department of Education's (DOE) failure to provide effective training or workshops for teachers (CAPS National Senior Certificate Diagnostics 2017); it is a prerequisite that teachers understand the fundamental teaching principles. Inadequate funding of schools may have also led to teachers not attending training or workshops, which could have equipped them with more subject-specific knowledge (Kolawoke & Elmore, 2007).

EMS knowledge, skills, and attitude are crucial outcomes in the effective teaching and learning of EMS, particularly in today's world of science and technology. These enable teachers to have well-planned lessons, organise their instruction effectively, and employ an appropriate teaching approach (Saad et al., 2015). They also help teachers address their learners' difficulties, preconceptions, and misconceptions (Ma'rufi et al., 2018). However, teachers are not professionally capable of integrating and transforming knowledge or delivering it in a way learners can easily understand (Ma'rufi et al., 2018; Saad et al., 2015).

This professional knowledge is known as PCK. Teachers with quality PCK can integrate EMS content knowledge with pedagogical strategies, thereby providing comprehensive learning for learners. Many primary school teachers lack sufficient content and pedagogical knowledge of EMS. Such limited knowledge can cause teachers to lack confidence and thus be incompetent in teaching EMS (Modise, 2016).

Poor EMS content knowledge among teachers leads to a lack of confidence in teaching it. In-depth subject matter knowledge can affect the abilities of an EMS teacher to prepare assessments for learners in the classroom. For an EMS teacher to be able to select a task and evaluate learners, it depends on how fully the teacher understands the EMS content (Ngwenya & Nzuza, 2022). Pre-service EMS teachers must be well-prepared to teach EMS concepts in the curriculum and confidently instruct learners (Department of Basic Education, Lejweleputswa District). Productive learning does not occur if EMS teachers fail to provide sufficient support for collaboration, and learners will ultimately have negative learning experiences (Häkkinen et al., 2017).

1.5.2 Strategies Implemented to Enhance Pedagogical Content Knowledge of Teachers

In Nigeria, teacher training institutions are those mandated by the National Policy on Education (NPE) to train individuals who will later join the teaching profession (Gupta, 2017). They offer both pre-service and in-service training for teachers. Two weeks of teacher training resulted in satisfactory improvements in learners' performance (Okeke & Eze, 2010). According to Hamdar et al. (2017), EMS teachers in Lebanon overcame these challenges by participating in CPD and professional development programmes to keep themselves informed about content knowledge and PCK. The focus was on improving conceptual knowledge and PCK to implement active teaching strategies (Ngwenya & Nzuza, 2022). The training programme for EMS teachers was successful, as the learners' pass rates improved (DBE, 2011).

Without teaching qualifications, teachers in Malaysia frequently lack pedagogical preparation (Keating, 2011). According to Shulman (1987), for teachers to teach successfully, they need to have content knowledge, general pedagogical knowledge, knowledge of learners, educational contexts, educational ends, purpose, and values. Teachers must have subject matter knowledge (SMK) to teach effectively (Keating, 2011).

A functional group of EMS teachers is believed to result in more effective teaching. Prichard et al. (2006) looked at the effect of team-skills training on pre-service teachers. The EMS teachers who participated in team skills training achieved significantly higher performance levels than those who did not. Collaborative skills that show higher levels of participation in teachers enabled them to prepare lesson plans, achieve on-task focus, identify learners' challenges, and respond to those challenges.

Teacher collaborative practices in EMS in primary schools are especially effective for teacher learning because they allow teachers to engage in in-depth discussions about teaching approaches and learners' learning that are relevant in their context (Opfer & Pedder, 2016). EMS teacher collaboration can increase learners' achievement and schools' performance in terms of results. EMS teacher collaboration enhances learners' understanding of teachers, teacher instruction and school organisation (e.g., adaptation and innovation regarding the curriculum). When collaborating, EMS

teachers can inspire each other by sharing practices, helping one another with feedback, and collectively developing innovative teaching materials (Hedman & Valo, 2015).

1.5.3 Conditions under which teachers' pedagogical content knowledge improves

People have treated communication as a variable instead of the fundamental process that forms teams. Communication is the process by which teachers construct their understanding and actions in collaboration with other teachers to create an effective environment that is conducive to both learners and teachers (Hedman & Valo, 2015). EMS needs to be taught by teams of professional educators from different sectors of the Department of Education. Inter-professional teamwork is thus perceived as a key feature of a comprehensive EMS approach (Schaefer & Davis, 2004). Teamwork is an important aspect of working conditions and, therefore, often a part of satisfaction assessments, which can lead to reliable results in learners. Collaboration is important to teachers' professional learning (Hedman & Valo, 2015).

Kennedy (2014) views team skills training and real-time facilitation as predictors of success in school development, which can enhance learners' learning of EMS. EMS teachers are also expected to teach their learners to collaborate, particularly because collaboration focuses on one of the essential skills of the 21st century (Hedman & Valo, 2015). EMS teachers who work efficiently together will enhance learning, with their learners automatically becoming effective collaborators. This method promotes both academic achievement and learners' social and collaborative skills. The EMS teacher's role is to promote learners' activities and foster effective collaboration to increase.

1.5.4 Threats which obstruct the improvements of teachers' PCK

EMS teachers may have insufficient knowledge of teaching methods (Yilmaz, 2016). EMS teachers have also been found to be incompetent in comprehending concepts—their knowledge is based on EMS PCK, and they experience difficulties in explaining the concepts to the learners (Yilmaz et al., 2021). They have been found to have insufficient EMS knowledge and the ability to effectively support the learning process of learners in all the topics (Yilmaz, 2016). Moreover, EMS is known for improving

thinking and providing opportunities to examine economic issues, which is a key component of the school's curriculum (Moh'd et al., 2021). The effectiveness of EMS teaching and learning is determined by the quality of teachers, with much of their effort focused on identifying the specific knowledge suitable for them to teach EMS effectively (Moh'd et al., 2021).

1.5.5 Indicators for the successful implementation of strategies

In response to the above challenges, schools should encourage teachers to upgrade their qualifications to acquire PCK (Okoye & Okwele, 2014). The DBE and schools need to motivate teachers who are willing and enthusiastic about EMS to learn new things to enhance their knowledge for the betterment of their learners' results (Fernandez, 2014). Curriculum developers and specialists in the EMS field have organised provincial training for all district teachers. During this training, both informal and formal teaching methods were thoroughly dealt with (Fernandez, 2014).

In South Africa, Mofokeng (2023) investigated the effectiveness of a PCK development programme concerning EMS. The study involved 10 primary school teachers who participated in a six-month programme of workshops, peer teaching observations, and reflective tasks. The study results showed that the programme positively impacted teachers' PCK development, including improvements in their knowledge of EMS content and pedagogical skills.

Professional Learning Communities (PLC) were also established, in which teachers who expected to teach EMS could share their expertise with other teachers (Okeke & Eze, 2010). According to Gupta (2017), overcoming these challenges in Nigerian training institutions was mandated by the national policy on education (NPE) to train those who would later belong to the teaching profession as EMS teachers. These institutions offered both pre-service and in-service training for teachers. Teachers were offered training on the CK of EMS for two weeks, resulting in reliable improvements in learner performance (Okeke & Eze, 2010).

1.6 THEORETICAL AND CONCEPTUAL FRAMEWORK OF THE STUDY

Creswell (2013) describes constructivism as a theory of knowledge acquisition, emphasising that understanding is developed through an individual's interactions with their environment and available resources. Onuf (2012) further categorises constructivism into two main types: (i) cognitive constructivism and (ii) social constructivism. Given the nature of this study, social constructivism will be used.

According to Creswell (2013), social constructivism serves as an interpretive lens through which individuals attempt to make sense of their world, forming specific meanings based on their experiences. This means that, from this perspective, Onuf (2012) suggests that social constructivism has roots in sociology and has likely been in development for over three decades. Additionally, this framework, often called interpretivism, is closely associated with the postmodern movement in qualitative research.

Onuf (2012) also highlights that social constructivists view knowledge and truth as being co-created through social interactions. He further points out that language may precede conceptual understanding, enabling individuals to reshape their world perceptions. This interpretive framework is particularly relevant in phenomenological research.

In this study, the researcher will adopt a social constructivist approach to investigate the socio-economic factors that influence learners' academic performance. Creswell (2013) recommends using open-ended questions to encourage participants to freely and in detail express their experiences. Creswell (2013) emphasises that the researcher should actively listen to participants' perspectives and interpret findings based on their backgrounds and lived experiences. Ultimately, employing the social constructivist framework will provide valuable insights into the unique perspectives and diverse influences shaping the participants' realities.

1.7 RESEARCH QUESTIONS

The study seeks to answer the research questions below, including the main research question and sub-questions.

1.7.1 Main research question

What are the strategies to improve teachers' pedagogical content knowledge of economic and management sciences in the Lejweleputswa district?

1.7.2 Sub-research questions

- What challenges do teachers face concerning inadequate Pedagogical content knowledge among economics and management science teachers?
- Which indicators are essential for successfully implementing strategies to improve the PCK of EMS teachers?
- Which factors contribute to the successful enhancement of PCK amongst EMS teachers?
- What methods can be employed to assess strategies to enhance PCK among EMS teachers?

1.8 RESEARCH AIMS AND RESEARCH OBJECTIVES

1.8.1 Research aim

This study explores strategies to improve the pedagogical content knowledge of economic and management sciences among teachers in the Lejweleputswa Education District. The following research objectives were considered to achieve this aim.

1.8.2 Research objectives

The research intentions of the study are as follows:

- To establish the challenges teachers face concerning inadequate Pedagogical content knowledge among economics and management science teachers.
- Formulate the indicators for successfully implementing strategies to improve the EMS PCK of EMS teachers.
- To determine factors contributing to the successful enhancement of PCK amongst EMS teachers.
- To explore methods that can be employed to assess the elements of strategies aimed at enhancing the PCK of EMS teachers.

1.9 RESEARCH DESIGN AND METHODOLOGY

1.9.1 Research method

The qualitative approach situates the study within the transformative paradigm. The transformative paradigm engages with community members and consciously focuses on addressing inequities and power dynamics, providing a platform to bring about some changes (Creswell, 2014). It is political, as it has social justice in mind and is action-oriented to bring fairness to the situation (Saunders et al., 2020). With this focus in mind, the researcher found the qualitative research approach well-suited to this paradigm. This is because the qualitative research approach is done naturally and deals with non-numerical data but values the lived experiences of people (Creswell, 2013). Using a transformative paradigm aims to understand and challenge dominant narratives and power structures associated with the effects of strategies for improving the primary school where the study was conducted. Qualitative research is also a powerful tool for undertaking this exercise. The researcher uses focus group discussions to allow the voices of marginalised participants to document their experiences and perspectives; when the researcher documents the experiences and perspectives of the participants, an insight into the strategies for improving the PCK of EMS teachers and the challenges experienced by the participants emerges. Denzin and Lincoln (2011) explain that qualitative research involves a detailed investigation of objects in their natural context to comprehend their meaning. Additionally, Creswell (2013) describes the qualitative research process as a naturalistic inquiry that uses non-intrusive data collection techniques to observe and analyse.

It is important to note that this approach prioritises gaining a deeper understanding rather than statistical analysis because the context is unique and requires in-depth research. According to Denzin and Lincoln (2011), qualitative research focuses on exploring processes and meanings rather than quantifying or measuring the amount, feelings, or volume of events. Instead, the qualitative research approach is employed by researchers to gain a deeper understanding of social phenomena from the participants' perspectives. In this study, the researcher considered several key aspects of qualitative research.

1.9.2 Research design

Maree (2016) defines research design as a structured plan or approach used to conduct a study to address questions related to social issues. Denzin and Lincoln (2011) describe research design as a flexible framework that connects theoretical perspectives with research strategies and, in turn, with methods for collecting empirical data. Maree (2016) further notes that research design involves determining how, when, and from whom data will be collected to answer specific research questions. According to Saunders et al. (2020), research design also encompasses the core philosophical foundations of the study, the techniques used to gather data, and the methods applied in data analysis.

To respond to the aim, the study adopted focus groups, telephone, and face-to-face interviews as its research design.

1.10 DATA GATHERING PROCEDURE

Data collection instruments are tools or techniques to gather data from research participants or sources. The design of these instruments ensures systematic and standardised data collection, ensuring their reliability and validity (Creswell, 2013). For this study, the researcher employed telephone interviews and focus groups. The telephone interview was conducted with one LF because it was difficult for her to attend the scheduled focus group meetings due to her always postponing and being busy at work. On the other hand, three (3) EMS teachers and six (6) grade seven learners formed part of the focus group interviews. The other participant, the principal, was interviewed face-to-face because he was also busy after school during the meetings, and the researcher and other participants felt like learners would not be free to talk while the principal was present.

1.10.1 Focus group interviews

This study's focus group discussion was conducted to stimulate conversation around a specific topic. To foster a productive discussion, the researcher led the focused group dialogue by asking questions while the participants shared their thoughts and opinions on the phenomenon under investigation. The focus group allowed participants to speak freely; teachers expressed their concerns and indicated that learners were not achieving their potential. They suggested including these learners

who are willing to share their experiences regarding EMS teaching and learning. This focus group discussion differed from a traditional question-and-answer session; participants were more candid, the dynamics within the group were nurtured, there was a sharing of power, and learners were allowed to present their ideas. The discussion gathered a wealth of high-quality information. There was freedom, peace, and equality during the focus group discussion. The focus group discussion evaluates how teachers can tackle the challenges in EMS subjects.

1.10.2 Semi-structured interview

Qualitative semi-structured interviews consist of several planned questions, but the interviewer has greater flexibility to adjust the wording and sequence of questions (Creswell, 2014). He further asserts that qualitative semi-structured interviews are among social science's most prevalent and widely employed data collection methods. They are valuable as they enable researchers to investigate subjective perspectives and gather in-depth narratives of people's experiences. Typically, an interview schedule is used, which allows the researcher to focus on a specific topic while enabling the participant to respond on their terms and discuss issues and subjects that are relevant to them. Consequently, the schedule should guide the interview while permitting other pertinent clarifying questions to emerge during the discussion. The rationale for the semi-structured interview with the principal will be to ascertain how management assists teachers in addressing the issue and how they provide potential solutions to the challenges they face. The researcher will conduct a one-on-one semi-structured interview with the principal, which will be tape-recorded and transcribed for analysis.

Employing a semi-structured interview approach supplements the structured questions by clarifying open or unstructured questions. These open questions facilitate further explanations and understanding of the responses to the structured questions.

1.10.2.1 Telephone interview

In this study, the researcher collects qualitative data using telephone interviews. One LF could not attend meetings, and a telephone interview was conducted with that participant. The telephone was conducted due to geographical distance, the interview with the LF, cutting travelling costs, and saving time for the participants involved.

1.10.2.1 Face-to-face interview

Face-to-face interviews can be conducted in various settings, such as an office or a public space; the setting can be chosen based on factors such as the nature of the research, the comfort level of the interviewee, and the need for privacy. However, this method can also be time-consuming and expensive, especially if travel is required, and it may also be subject to bias or social desirability bias, which can affect the quality of the data collected (Morgan, 1997). The principal of the school-selected group will undergo a face-to-face interview.

1.11 POPULATION AND SAMPLING

1.11.1 Population

Population refers to a group of individuals or objects a researcher wishes to study (Babbie, 2020). In contrast, sampling pertains to selecting a subset of individuals or objects from the population for the study (Thomas & Brown, 2011). According to Bell et al. (2022), the population of a research study may be delineated in terms of geography, demographics, behaviour, or any other characteristics pertinent to the research question. The study's target group comprises EMS teachers, learning facilitators (LF) for EMS, the school's principal where the study was undertaken, and Grade 7 learners of the research school in the Lejweleputswa District of the Free State Province. The researcher gathered qualitative information from each participant, as previously described. The researcher concentrated on that grade level since the primary school syllabus typically introduces EMS at Grade 7.

1.11.2 SAMPLING

Sampling is the organised way of choosing examples that might be part of a research study, using different methods (Babbie, 2020). A sample is a smaller group taken from a larger population that the study examines. Also, the sample needs to be big enough to ensure the results are reliable and can find important differences or connections in the studied population.

The sampling for this study consisted of one LF, three EMS teachers, six learners ranging from 12 to 14 years of age, and the school's principal.

1.12 DATA ANALYSIS

Data analysis is the process of verifying or putting together the data generated from the participants in the study to make conclusions that the researcher has gathered (Creswell, 2014). In addition, data analysis in qualitative research is a conventional procedure that systematically puts the interview transcripts and notes taken during the focus group discussion together and goes through them, reading and re-reading until the themes are formulated from the data.

1.12.1 Thematic Analysis

The current study used thematic analysis to analyse the qualitative data. The rationale behind choosing thematic analysis is to analyse the classifications and present the themes that emerged from the data. According to Braun and Clarke (2019), thematic analysis illustrates the data in a much more detailed manner and deals with diverse phenomena through interpretations.

1.13 ETHICAL CONSIDERATION

Ethical considerations are crucial in conducting studies that respect research participants' dignity, autonomy, and welfare. The American Psychological Association (APA, 2017) states that obtaining an ethical clearance number and permission from the Ethical Committee and the Committee for Title Registration at the Central University of Technology is necessary. The researcher requested permission from the Department of Education to access the selected school premises at which the research was conducted. The Department of Education granted ethical clearance. The first encounter was with the principal of interest, who requested and negotiated access to the school premises to conduct the study. Then, the chosen school's learners were given consent forms to give to their parents or guardians. The forms invited the learners to join the study and stated they could withdraw anytime. It was voluntary; none of the participants was forced to participate. They were informed that they could discontinue at any time if they did not want to continue.

Ethical concerns in research include how participants are treated and potential physical or psychological harm. In this study, the researcher secured informed consent from participants, avoided using deceptive data collection methods, and ensured the

data were analysed and reported with integrity (Hammond & Wellington, 2013). A key principle of research ethics is to prevent any harm to participants due to their involvement. Since intentional or accidental harm can occur during research, the researcher remained vigilant about potential risks throughout the study (Creswell, 2014). Ethical research also involves maintaining professionalism, safeguarding participants' rights, privacy, and well-being. The identities of both the participants and their schools were kept confidential, and all participation was voluntary. No participant experienced any physical or emotional distress.

1.14 LAYOUT OF CHAPTERS

Chapter 1: Introduction

This chapter focused on the study's orientation. It presented the introductory background of the challenges economic and management science teachers face, the problem statement, the aim of the study, the research methodology, ethical considerations, the study's value, and the overall layout.

Chapter 2: Frameworks and Literature Review

This chapter provides detailed literature on EMS, pointing out the challenges, components, conditions, threats, and successes of designing appropriate strategies for primary school teachers.

Chapter 3: Research Design and Methodology

This chapter presents the research design, methods, and procedures used to collect and analyse the study's data.

Chapter 4: Data Analysis and Interpretation

This chapter on data presentation analysis the information gathered and interprets all the data gathered from the survey.

Chapter 5: Conclusion, Implications, and Recommendations

This chapter serves as the study's final chapter. It discusses the main findings, presents recommendations, emphasises further research, and concludes the study.

1.15 CONCLUSION

This introductory chapter provides background for the study. The problem statement and research questions were discussed with the study's aims and objectives. The theoretical framework, research design and methodology, data analysis, and ethical considerations received significant attention. The study chapters were organised systematically. The study's significance, ethical considerations, and thesis structure were also provided. The next chapter presents literature on PCK and EMS.

CHAPTER 2

FRAMEWORKS AND LITERATURE REVIEW

2.1 INTRODUCTION

This chapter focuses on various strategies that effectively improved PCK among EMS teachers; these included professional development programmes, monitoring, and collaborative learning. The chapter aims to provide insight to educators and policymakers to enhance EMS education. Thus, the purpose of the chapter is to review the literature on strategies to improve the PCK of EMS teachers. The chapter provides an overview of the existing literature on PCK in the context of the EMS education. It also presents the challenges EMS teachers face in developing and using this type of knowledge (Waldron & Tippett, 2018).

According to Fink (2019), a literature review can be seen as a condensed vision through published scholarly articles and books. It presents an overview of the existing knowledge on a particular topic, drawing from published works by reputable scholars and researchers, and it serves as a record of what has been written and researched regarding the subject matter (Vescio et al., 2008).

EMS encompasses a range of disciplines, including economics, accounting, and entrepreneurship. In South African primary schools, EMS is a compulsory subject from Grade 7 and aims to introduce learners to basic concepts and principles and equip them with the skills and knowledge that will prepare them for the world of work (Vescio et al., 2008).

According to the South African Department of Basic Education (2011), the EMS curriculum for primary schools is structured around five key areas: economics and financial literacy, entrepreneurship, consumer education, environmental education, and social and economic issues. Furthermore, the curriculum is designed to equip learners with the skills and knowledge to become responsible and informed citizens who can contribute to the economy and society.

2.2 THEORETICAL AND CONCEPTUAL FRAMEWORK OF THE STUDY

The study's theoretical framework is based on constructivist learning theory, which emphasises the importance of effective learning and the construction of knowledge by learners. According to this theory, learners must actively engage in understanding the content. This framework is particularly relevant to the development of PCK, as it emphasises the importance of the teacher's ability to facilitate learners' learning by creating opportunities for active engagement with the content (Hill et al., 2005).

According to Grossman et al. (2009), a conceptual framework is based on the development of individual and collective efforts. Hill et al. (2005) propose that individual efforts involve the development of teachers' knowledge and beliefs about teaching and learning, while collective efforts involve creating a supportive learning community in which teachers can share their knowledge and experiences.

The proposed strategies for improving PCK among EMS teachers in primary schools include:

- Professional development programmes that provide opportunities for teachers to develop advanced PCK skills and to learn from one another;
- Monitoring programmes that pair experienced teachers with novice teachers to provide support and guidance; and
- Collaborative learning communities that provide opportunities for teachers to share their knowledge and experiences and to engage in ongoing reflection and discussion about teaching and learning.

A theoretical and conceptual framework is the foundation of any qualitative research study by defining key concepts, principles, and expected relationships between variables (Creswell & Creswell, 2017). Understanding socio-economic factors affecting academic performance is important before developing a suitable theoretical and conceptual framework. According to Creswell (2014), a conceptual framework provides a structured approach by identifying key variables and their interactions in a narrative and graphical format, helping to clarify the direction of the study.

Smith (2015) states that a conceptual framework consists of interrelated concepts and assumptions that establish the groundwork for the study, ensuring coherence and alignment with research objectives. Miles et al. (2013) define conceptual frameworks

as structured frameworks incorporating significant events and behaviours the study aims to investigate. Smith (2015) highlights that constructing a conceptual framework is vital in research, as it helps articulate theoretical relationships and the need for supporting theories.

Moreover, developing a conceptual framework facilitates the establishment of the study's scope, delineating its boundaries, and identifying inclusion and exclusion criteria (Miles et al., 2013). Smith (2015) argues conceptual frameworks facilitate a logical connection between theoretical assumptions, research questions, and methodologies, enhancing the study's validity. Furthermore, socio-economic issues influencing academic performance must be understood within a structured framework to guide the study's direction (Creswell, 2013).

The study is grounded in a theoretical framework that will be discussed in detail in subsequent sections. As the research focuses on PCK on academic performance, social constructivism has been adopted as the guiding theory, aligning with the study's emphasis on meaning-making based on individuals' perceptions (Onuf, 2012; Creswell, 2013).

2.2.1 Constructivism

Constructivism is a learning philosophy that emphasises knowledge construction through interactions with the environment (Onuf, 2012). Creswell (2014) notes that learning theories can be classified into three primary categories: behaviourism, cognitive constructivism, and social constructivism, each with distinct perspectives on knowledge acquisition and learning processes.

Table 2.1: An Overview of Constructivist Learning Theories

Learning Theory	View of Knowledge	View of Learning	View of Motivation	Implications for Teaching
Behaviourism	Knowledge is a set of behavioural responses to stimuli.	Passive absorption reinforced through repetition.	Extrinsic motivation through rewards and punishments.	Teacher-centred, transmission of correct responses.
Cognitive Constructivism	Learners actively construct knowledge.	Assimilation and accommodation of new information.	Self-set goals drive intrinsic motivation.	The teacher facilitates discovery learning.
Social Constructivism	Knowledge is constructed through social interactions.	Collaborative learning in a knowledge community.	Combination of intrinsic and extrinsic motivation.	Teacher guides group-based collaborative learning.

Individualised or social constructivism allows for the active construction and reconstruction of knowledge through learning experiences (Onuf, 2012). Creswell (2013) states that constructivist learning results from shared agreements and knowledge distribution, emphasising collaboration and interaction as key components of knowledge creation. The table of constructs helps the researcher clearly define and outline the key concepts and variables being studied (Braun & Clarke, 2019). Furthermore, Clarke (2012) asserts that schemes enable researchers to categorise and analyse data systematically.

2.2.1.1 Criticism of Constructivism

Despite its benefits, constructivism has faced criticism regarding its effectiveness in all learning contexts. Clarke (2012) highlights that distinguishing between understanding and processing information is crucial for effective learning. Onuf (2012) argues that not all learners possess the cognitive structures necessary for meaningful

learning through experience, and constructivist methods may not always suit all learners. Additionally, teachers may design open-ended lessons that rely too heavily on learners' abilities to construct knowledge independently (Onuf, 2012).

Given these limitations, this study employs social constructivism to understand better the socio-economic factors influencing learner performance.

2.2.1.2 Social Constructivism

Social constructivism, developed by Vygotsky, focuses on learning as a social process shaped by cultural and interpersonal interactions (Creswell, 2013). This study uses social constructivism to investigate the impact of inadequate PCK from EMS teachers on learners' academic performance. According to Onuf (2012), social constructivism rejects absolute objectivity, emphasising knowledge as a product of social engagement and context.

Knowledge construction in social constructivism occurs through language, interactions, and shared experiences (Jones & Abes, 2013). This theory supports that individuals develop understanding through communication within a knowledge community. Jones and Abes (2013) further argue that social constructivism underlines three key assumptions:

- Reality is socially constructed, where knowledge is developed through collective human activity and interactions.
- Knowledge is a social product generated through shared cultural and social experiences.
- Learning is a social process; it is how meaningful learning occurs through engagement in social interactions.

Social constructivism emphasises collaboration and dialogue in learning, enabling individuals to build knowledge collectively (Jones & Abes, 2013). Onuf (2012) asserts that active engagement in meaning-making enhances the learning experience. Moreover, learners benefit from working within their Zone of Proximal Development, where guidance and interaction refine their cognitive abilities (Jones & Abes, 2013).

2.2.2 Implementation of Social Constructivism

Inadequate PCK disparities significantly impact academic performance, with learners from lower socio-economic backgrounds often facing systemic challenges (Onuf, 2012). Jones and Abes (2013) state that social class-based stereotypes influence learners' academic success. Onuf (2012) argues that educational systems often reflect hidden cultural norms favouring privileged learners, exacerbating inequalities.

Jones and Abes (2013) argue that academic performance is primarily influenced by family background and educational experiences. They further emphasise the importance of socio-economic status in shaping learners' academic opportunities. Onuf (2012) emphasises the importance of institutional culture in influencing learner engagement and performance.

Social constructivism provides a theoretical lens to analyse these disparities by emphasizing the role of social and cultural contexts in learning (Clarke, 2012). According to Collet and Green (2017), knowledge acquisition is influenced by community-based cognitive tools that facilitate meaning-making. Collet and Green (2017) further suggest that constructivist teaching fosters active engagement, resulting in more profound learning experiences.

In conclusion, social constructivism is instrumental in understanding the impact of PCK on academic performance. This framework aligns with qualitative research methodologies by emphasizing interaction, collaboration, and the socio-cultural dimensions of learning (Clarke, 2012). Future research should explore practical strategies for integrating social constructivist principles into educational policies to enhance equity and learning outcomes for all learners.

2.3 LITERATURE REVIEW

EMS is an integral component of the primary school curriculum, which aims to provide learners with entrepreneurial skills, financial knowledge, and real-life skills for self-development and society's development (Venter & Hayidakis, 2021). To achieve this goal, the EMS teacher should possess PCK in the field of expertise. PCK is the knowledge of how to teach a particular subject, whereas CK refers to the knowledge

of the subject itself. According to Shulman (1986), teachers with PCK are more effective in promoting learners' learning.

Research has shown that EMS teachers' PCK is essential for effective teaching and learners' learning. The study by Ward and Kim (2018) confirms this, demonstrating a positive correlation between teachers' PCK, their teaching effectiveness, and the learning outcomes of their learners. Furthermore, teachers with sufficient PCK are better equipped to explain complex concepts, provide feedback, and design appropriate learning activities for their learners. Various strategies have been proposed in the literature to improve the PCK of EMS teachers. For instance, researchers have found that professional development programmes enhance teachers' PCK (Chen et al., 2020).

Collaboration with subject matter experts, such as LFS and departmental heads, can also improve teachers' PCK (Enright, 2018). Therefore, research suggests that ongoing professional development and collaboration with subject matter experts are effective strategies for improving EMS teachers' PCK and lead to enhanced teaching effectiveness and learners' learning outcomes.

2.4 FACTORS CONTRIBUTE TO THE SUCCESSFUL ENHANCEMENT OF PCK

2.4.1 Professional Learning Communities

Professional Learning Communities are collaborative groups of educators who systematically engage in reflective dialogue and collective inquiry to enhance teaching practices and improve learner outcomes. Originating in the 1990s, the concept of PLCS has gained prominence as a strategy for fostering professional development and driving school improvement (Okeke & Eze, 2010). These communities emphasise shared leadership, collective responsibility, and a commitment to continuous learning among teachers and administrators.

The implementation of PLCS offers numerous benefits. By promoting a culture of collaboration, PLCS enable educators to share best practices, analyse learners' data, and develop effective instructional strategies. This collaborative approach has been linked to increased teacher efficacy and improved learner achievement (Fred et al., 2020). Furthermore, PLCS provide a supportive environment for educators to engage

in ongoing professional development, fostering a sense of collective responsibility for learner learning outcomes.

However, establishing and sustaining effective PLCS presents several challenges. Time constraints and scheduling conflicts often hinder regular collaboration among teachers. Additionally, varying levels of trust and openness can impact the depth of professional dialogue within the community. A study in the Philippines highlighted issues such as workload overloads, time conflicts, and low trust among colleagues as significant barriers to effective PLC implementation (Fred et al., 2020).

Leadership plays a crucial role in PLCS success. Effective leaders facilitate a shared vision, provide necessary resources, and create a culture that values continuous improvement. Research indicates that specific leadership actions, such as promoting a collaborative school culture and supporting teacher autonomy, are essential for developing and sustaining PLCS (Okeke & Eze, 2010). Moreover, leaders must address structural and cultural barriers to foster an environment conducive to collaborative learning.

The integration of technology has further expanded the potential of PLCS. Digital platforms and online communities enable educators to collaborate beyond geographical constraints, facilitating sharing resources and ideas on a broader scale. This technological advancement has been particularly beneficial in promoting inclusive and diverse professional learning networks (Fred et al., 2020). However, educators must also develop digital literacy skills to engage in online collaborative environments effectively.

Professional learning communities represent a powerful approach to professional development and school improvement. While they offer significant benefits in enhancing teaching practices and learner outcomes, successful implementation requires addressing time, trust, and leadership challenges. By fostering a collaborative culture and leveraging technological tools, educators can maximise the potential of PLCS to drive continuous improvement in education.

2.4.2 Technology integration

Technology integration in education refers to the effective use of technological tools and resources in teaching and learning processes to enhance educational outcomes. Adopting digital technologies has transformed traditional educational paradigms, offering innovative approaches to instruction and learning (UNESCO, 2023).

One significant benefit of technology integration is that it facilitates personalised learning experiences. Digital tools enable educators to tailor instructional materials to individual learner needs, promoting engagement and improving learning outcomes (Badshah et al., 2023). Moreover, incorporating artificial intelligence in education has opened new avenues for adaptive learning and intelligent tutoring systems, providing real-time feedback and support to learners (Imran & Almusharraf, 2024).

However, challenges persist in the effective integration of technology. Educators often require adequate training and support to use technological tools effectively. A study highlighted the necessity for comprehensive professional development programmes to equip teachers with the necessary competencies for successful technology integration (Badshah et al., 2023).

Additionally, concerns regarding learner distraction and overreliance on technology have emerged. Excessive screen time can lead to diminished attention spans and reduced face-to-face interactions, impacting the learning environment (Imran & Almusharraf, 2024). Therefore, it is essential to balance technological use and traditional teaching methods to maintain learner engagement and well-being.

The COVID-19 pandemic has further underscored the importance of technology in education. The sudden shift to remote learning highlighted both digital education's potential and challenges. While technology enabled the continuity of education during school closures, it also exposed disparities in access and digital literacy among learners and educators (Means & Neisler, 2021).

Technology integration in education presents both opportunities and challenges. While it offers avenues for personalised learning and innovative instructional strategies, it also necessitates adequate support from educators and mindful implementation to

mitigate potential drawbacks. Ongoing research and policy development are crucial to harnessing technology's full potential in enhancing educational outcomes.

2.4.3 Classroom Environment and Resources

Lack of textbooks and technological tools for the classroom can make it difficult for teachers to develop a solid foundation in EMS and effectively communicate knowledge to learners, as well as having too many pupils in one classroom setting (Mkhasibe et al., 2020). According to Dreyer and Nel (2018), teachers often struggle to find appropriate resources to teach EMS effectively; additionally, many teachers lack the necessary training and support to develop effective teaching strategies in EMS. Lack of equipment, access to resources, training, and support are relevant. If learners and teachers cannot access computers and fast internet connections, then implementing technology is not feasible. Also, if teachers lack tech training, they need skills, which can hinder tech use in class. Mkhasibe et al. (2020) assert that teachers support using technology, but a significant barrier is that they lack sufficient training. According to Hodges and Hicks (2018), we cannot assume that all learners have access to appropriate technology and home support.

The classroom environment and the availability of resources significantly influence EMS teachers in the Lejweleputswa district's PCK. A well-equipped and supportive classroom setting facilitates effective teaching and enriches student learning experiences (Hodges & Hicks, 2018).

In South Africa, disparities in resource allocation have led to under-resourced classrooms, particularly in rural areas. Teachers in these settings often face challenges that impede their ability to deliver quality education. Despite these obstacles, educators employ innovative pedagogical strategies to ensure that teaching and learning continue to be effective.

The Lejweleputswa Education Resource Centre (ERC) in Welkom is pivotal in addressing resource constraints. Established to support teachers, learners, and the community, the ERC provides professional development workshops and training interventions. The design of these initiatives aims to improve teachers' classroom practices and foster their professional development (DOE, 2020).

Effective financial management within schools is crucial for procuring and maintaining educational resources. Studies in the Lejweleputswa district have highlighted the importance of budgeting as a tool for financial management, emphasising that well-planned budgets can significantly improve the quality of education by ensuring that necessary resources are available and used appropriately (UNESCO, 2020).

Information and Communication Technology (ICT) has transformed modern education, enhancing teaching and learning processes. According to UNESCO (2020), ICT facilitates access to a vast array of digital resources, enabling learners to learn at their own pace and according to their needs. Furthermore, ICT tools such as interactive whiteboards, educational software, and online collaboration platforms foster active learner engagement and improve classroom interactivity (Anderson, 2010). Hennessy et al. (2005) found that integrating ICT can support constructivist learning, enabling learners to explore, experiment with, and apply knowledge in real-life contexts. Teachers also benefit, as ICT offers new instructional strategies and access to continuous professional development opportunities (Tondeur et al., 2017). However, successful implementation requires adequate training, infrastructure, and support systems to avoid reinforcing educational inequalities (Pelgrum, 2001). Thus, when thoughtfully integrated, ICT in the classroom can significantly enhance the quality and accessibility of education.

In conclusion, the classroom environment and availability of resources are integral to the development of EMS teachers' PCK in the Lejweleputswa district. Addressing resource disparities, providing professional development opportunities, and ensuring effective financial management are essential to creating a conducive learning environment that benefits teachers and learners.

2.4.4 Teachers' education and training

Many teachers may have had limited exposure to EMS during their pre-service training and may not have had the opportunity to attend relevant professional development workshops, which can lead to a lack of confidence and competence in teaching it, particularly in areas that require specialised knowledge and skills (Johnson & Down, 2017). Lack of training and professional development for teachers has been a persistent issue in the education sector, with far-reaching consequences for teacher

quality, learners' outcomes, and overall education standards (Darling-Hammond & Bransford, 2005). Research has consistently shown that teachers who receive ongoing training and professional development are effective in the classroom, have higher job satisfaction and are less likely to leave the profession (Johnson & Down, 2017). Many teachers report feeling inadequately prepared to meet the diverse needs of their learners, particularly in the subject of EMS.

One of the primary reasons for the lack of training is the limited resources available in schools and education departments (DOE, 2017). Mestry (2019) asserts that budget constraints, lack of infrastructure, and inadequate administrative support can hinder efforts to provide teachers with the necessary training and development opportunities. Furthermore, the ever-changing nature of education policies and curriculum requirements can make it difficult for teachers to keep up with the latest developments and best practices (Agumba & Dasoo, 2024).

According to Tondeur et al. (2017), inadequate training can be severe, leading to teacher burnout, decreased morale, and reduced job satisfaction. Teachers who feel unsupported and unprepared may struggle to provide high-quality instruction, ultimately impacting learners' learning outcomes and academic achievement (Agumba & Dasoo, 2024). Moreover, a lack of training can exacerbate educational inequalities, particularly for disadvantaged or marginalised groups (Johnson & Down, 2017).

Recent studies have highlighted the importance of ongoing training and professional development for teachers, particularly in EMS education (Agumba & Dasoo, 2024). Research has emphasised the need for teacher education programs to prioritise the development of PCK, which is critical for effective EMS teaching and learning (Shulman, 1986). Moreover, there is a growing recognition of the need for more collaborative and school-based approaches to teachers' professional development, which can help build capacity and promote sustainability (Johnson & Down, 2017). The lack of teacher training is a pressing issue requiring urgent attention from education stakeholders.

2.4.5 Policy and administrative support

Enhancing the PCK of EMS teachers in the Lejweleputswa district requires comprehensive policy and administrative support. Robust policies and effective administrative measures are essential to provide educators with the necessary resources and frameworks to refine their teaching strategies and deepen their subject expertise (Mestry, 2019).

The National Policy Framework for Teacher Education and Development in South Africa emphasises the importance of Continuous Professional Development (CPD) for teachers. This framework advocates for a system where educators engage in ongoing learning to meet evolving educational demands and methodologies. The South African Council for Educators oversees this CPD system, ensuring that professional development activities are well-structured and effectively implemented (Mishra & Koecher, 2006).

Administrative support is pivotal in facilitating these professional development initiatives. School administrators are responsible for creating an environment that fosters teachers' participation in CPD programmes. This includes allocating time within the school schedule for professional development activities and providing access to necessary resources. By prioritising CPD, administrators help cultivate a culture of continuous improvement among EMS teachers (Mestry, 2019).

Moreover, teachers in South Africa often juggle various administrative duties beyond classroom instruction, such as curriculum development and assessment coordination. Adequate administrative support can alleviate some of these burdens by streamlining processes and helping where needed, allowing teachers to focus more on enhancing their PCK and delivering quality education to learners (Mishra & Koecher, 2006).

However, challenges persist in aligning professional development opportunities with teachers' needs. Research suggests that some CPD programmes may not adequately address educators' unique needs, resulting in dissatisfaction and a limited impact on teaching practices (Darling-Hammond & Bransford, 2005). Therefore, policymakers and administrators must engage teachers in the planning and evaluation of professional development activities to ensure relevance and effectiveness (Mishra & Koecher, 2006).

In conclusion, strengthening the PCK of EMS teachers in the Lejweleputswa district requires a concerted effort involving comprehensive policy frameworks and proactive administrative support. By fostering an environment that values and facilitates continuous professional development, educational stakeholders can enhance teaching quality and learners' learning outcomes.

2.4.6 Parental and community support

Enhancing the PCK of EMS teachers in South Africa, particularly within the Lejweleputswa district, necessitates robust parental and community support. Such collaboration fosters a conducive environment for teacher development and improved learner outcomes (Dlamini, 2020).

Coetzee (2018) asserts that parental involvement is a critical component in the educational ecosystem, significantly impacting teacher effectiveness and learner performance. In South Africa, parental engagement has traditionally been limited to activities such as paying school fees and attending meetings. However, more active participation in educational processes can enhance teachers' instructional strategies and content delivery.

Community support further amplifies the benefits of parental involvement by providing additional resources and creating a network of stakeholders invested in educational success. Schools that actively engage with their communities often experience improved teacher morale and professional growth, as educators feel supported both within and outside the school environment (Mestry, 2019).

Despite the recognised importance of parental and community engagement, challenges persist. Factors such as socio-economic constraints, parents' limited educational backgrounds, and a lack of understanding of the educational system can hinder effective participation. Addressing these barriers requires targeted strategies to empower parents and community members to engage meaningfully in the educational process (Coetzee, 2018).

Teacher education programmes are pivotal in preparing educators to collaborate effectively with parents and communities. Integrating family and community engagement training into teacher professional development can equip EMS teachers

with the skills necessary to build strong partnerships, thereby enhancing their PCK and teaching efficacy (Dlamini, 2020).

Fostering robust parental and community support is crucial for enhancing the professional competence of EMS teachers in the Lejweleputswa district. By addressing existing challenges and leveraging collaborative partnerships, educational stakeholders can create an environment that fosters teacher development and enhances learner learning outcomes (Ahmed et al., 2022).

2.4.7 School culture and leadership

Enhancing the PCK of EMS teachers in the Lejweleputswa district requires a supportive school culture and effective leadership. A positive school culture, characterised by shared values and collaborative practices, significantly influences teachers' development and learner outcomes. Leadership shapes this culture by fostering an environment conducive to continuous professional growth (Laubscher, 2021).

In South Africa, school leadership has evolved to emphasise instructional leadership, focusing on teaching and learning processes. This shift addresses challenges such as poor learner outcomes and administrative inefficiencies. Effective leaders prioritise professional development, creating opportunities for EMS teachers to enhance their PCK through workshops and collaborative learning communities (Laubscher, 2021).

The Lejweleputswa Education Resource Centre (ERC) exemplifies the impact of supportive leadership and culture on teacher development. Established to serve educators and the broader community, the ERC provides professional development through workshops and targeted training interventions. Such initiatives support EMS teachers in refining their instructional strategies and deepening their subject knowledge (DOE, 2018).

Ahmed et al. (2022) assert that teacher leadership is another critical component of a positive school culture. Empowering EMS teachers to take on leadership roles fosters a sense of ownership and encourages the sharing of best practices. Research indicates that collaborative professional development models enhance teacher leadership, improving instructional methods and learner outcomes.

However, challenges persist in cultivating such a culture. Issues like resistance to change, lack of resources, and insufficient training can hinder the development of effective school leadership and culture. Addressing these challenges requires targeted policies and ongoing support from educational authorities to ensure that EMS teachers receive the necessary resources and training (ASCD, 2019). Fostering a supportive school culture and strong leadership is crucial for enhancing the PCK of EMS teachers in the Lejweleputswa district. By prioritising professional development, promoting teacher leadership, and addressing existing challenges, educational stakeholders can create an environment conducive to continuous improvement and better educational outcomes (Laubscher, 2021).

2.4.8 Teacher motivation and self-efficacy

Teacher motivation and self-efficacy play a crucial role in enhancing PCK, as they influence how teachers approach their professional development and instructional strategies (Coetzee, 2018). Motivation drives teachers to seek innovative teaching methods, while self-efficacy determines their confidence in implementing these strategies effectively (Fred et al., 2020). When teachers believe in their ability to teach effectively, they are more likely to invest time in refining their PCK, leading to improved learner learning outcomes (Shulman, 1987).

A key factor in enhancing teacher motivation is the provision of professional development opportunities (Fred et al., 2020). Teachers who receive continuous training and support are more likely to feel empowered and confident in their teaching abilities (Desimone & Garet, 2015). Research suggests that when teachers participate in workshops, collaborative learning, and mentoring programmes, their motivation increases, resulting in enhanced PCK development (Abramson et al., 2019). However, without structured support, teachers may struggle to maintain their enthusiasm for professional growth.

Self-efficacy is closely linked to teachers' willingness to experiment with new teaching methods and strategies (Gale et al., 2021). Teachers with high self-efficacy are more likely to take risks in their instruction, adapt lessons based on learner needs, and persist in overcoming classroom challenges (Fred et al., 2020). This adaptability is essential for PCK development, allowing teachers to refine their instructional

techniques over time (Gess-Newsome et al., 2019). In contrast, teachers with low self-efficacy may hesitate to implement new approaches, limiting their professional knowledge and competence growth (Fred et al., 2020).

Creating a positive school environment can significantly enhance teacher motivation and self-efficacy (Gale et al., 2021). Schools that provide recognition, constructive feedback, and collaborative opportunities foster a sense of professional fulfilment among teachers (Fred et al., 2020). When teachers feel valued and supported, they are more likely to engage in reflective teaching practices and continually improve their PCK (Van Driel et al., 2002). A lack of support, on the other hand, can lead to demotivation and stagnation in professional growth (Gale et al., 2021).

Mentorship and peer collaboration are effective strategies for boosting teacher self-efficacy and motivation (Abramson et al., 2019). When teachers access mentors or professional learning communities, they gain valuable insights into effective teaching strategies and classroom management techniques (Borko et al., 2010). Studies indicate that teachers who work collaboratively are more likely to develop a more profound understanding of subject content and improve their instructional approaches, strengthening their PCK (Desimone & Garet, 2015).

In conclusion, enhancing teacher motivation and self-efficacy is a powerful strategy for improving PCK (Gess-Newsome et al., 2019). By providing professional development, fostering a supportive work environment, and encouraging collaboration, schools can continuously empower teachers to refine their instructional skills (Gale et al., 2021). As teachers become more confident and motivated, their ability to deliver complex subject content effectively improves, ultimately benefiting learner learning outcomes (Gess-Newsome et al., 2019).

2.4.9 Monitoring and coaching

Monitoring and coaching are essential strategies for improving teachers' PCK by providing continuous support and structured feedback (Shulman, 1986). Through systematic monitoring, schools can assess teachers' instructional strengths and areas for development, ensuring that professional growth is aligned with learner learning needs (Gess-Newsome et al., 2019). Coaching further enhances this process by

offering personalised guidance that helps teachers refine their teaching methods and deepen their understanding of subject content (Shulman, 1986).

Effective monitoring involves classroom observations, lesson evaluations, and analysis of learner performance to identify gaps in a teacher's instructional practices (Darling-Hammond & Bransford, 2005). When conducted constructively, monitoring enables educators to receive feedback on their teaching strategies and make necessary adjustments to enhance their PCK (Van Driel et al., 2002). Research shows that ongoing assessment of teachers' instructional techniques improves teaching effectiveness and learner achievement (Desimone & Garet, 2015). However, monitoring should be developmental rather than punitive to ensure teachers feel supported rather than scrutinised (Shulman, 1986).

Coaching complements monitoring by providing targeted professional support that helps teachers refine their instructional approaches (Abramson et al., 2019). Instructional coaching involves experienced educators or mentors working closely with teachers to improve lesson planning, content delivery, and assessment methods (Shulman, 1986). Studies indicate that teachers who receive coaching are more likely to adopt innovative teaching practices, resulting in stronger professional knowledge for teaching PCK development (Grossman et al., 2009). This personalised support enables teachers to overcome instructional challenges and continuously improve classroom practices (Shulman, 1986).

One key benefit of coaching is that it promotes reflective practice by encouraging teachers to critically analyse their teaching methods and make necessary improvements (Desimone & Garet, 2015). Reflection helps teachers identify misconceptions, adjust instructional strategies, and enhance their ability to convey complex concepts effectively (Van Driel et al., 2002). Furthermore, coaching fosters a culture of continuous learning, where teachers are encouraged to experiment with new teaching techniques and refine their pedagogical approaches (Desimone & Garet, 2015).

Collaboration between teachers and instructional coaches also enhances professional learning communities, creating an environment where educators collectively share best practices and develop their PCK (Van Driel et al., 2002). Research indicates that

teachers who participate in collaborative coaching experiences gain deeper insights into effective teaching strategies, resulting in sustained professional growth (Borko et al., 2010). Teachers who support one another through peer coaching build confidence in their instructional abilities and develop more effective ways of delivering subject content (Grossman et al., 2009).

In conclusion, monitoring and coaching are vital strategies for improving teachers' PCK by providing continuous feedback, personalised support, and opportunities for professional reflection (Gess-Newsome et al., 2019). By implementing structured monitoring systems and fostering a coaching culture, schools can ensure that teachers develop their instructional skills and enhance learner learning outcomes (Knight, 2007). Investing in these strategies ultimately leads to a more effective teaching workforce capable of delivering high-quality education (Desimone & Garet, 2015).

2.5 CHALLENGES FACED BY EMS TEACHERS IN IMPROVING PCK

2.5.1 Lack of collaboration

Collaboration with other professionals from diverse backgrounds can provide teachers with access to the latest EMS knowledge and resources and opportunities to showcase best practices and strategies for effective teaching (Vescio et al., 2008). Kennedy (2016) asserts that the conceptual framework suggests these strategies will be most effective when implemented in supportive learning communities that value collaboration, reflection, and ongoing professional growth.

According to Mestry (2019), the lack of collaboration among teachers has been identified as a significant barrier to effective teaching and learning. When teachers work in isolation, they may miss opportunities to share knowledge, expertise, and resources, ultimately impacting learners' outcomes (Vescio et al., 2008).

Mestry (2019) asserts that collaborative teacher cultures can improve morale and increase job satisfaction. The primary reason for the lack of collaboration among teachers is the traditional structure of schools, which often emphasises individualism and competition over collaboration (Vescio et al., 2008). Furthermore, there is an increase in demand for teaching, including high-stakes testing and accountability

measures, which limits time for collaboration activities (Kennedy, 2016), resulting in teachers feeling isolated, which affects their motivation and engagement

The lack of collaboration can hurt teacher professional development, as teachers may miss opportunities to learn from one another and share best practices (Kennedy, 2016). Research has shown that collaborative professional development can improve teacher knowledge, increase confidence, and enhance instructional practices (Desimone & Garet, 2015). However, when teachers work in isolation, they may rely on individual professional development opportunities, which may be less effective (Desimone & Garet, 2015). To address the lack of collaboration among teachers, schools can implement strategies such as peer mentoring, collaborative planning, and professional learning communities (Abramson et al., 2019). These strategies can help to foster a collaborative teacher culture, promote teachers' learning and growth, and ultimately enhance learners' academic performance (Desimone & Garet, 2015).

Insufficient collaboration among teachers is a widespread problem in many educational settings. Several studies have indicated that a lack of collaboration can lead to adverse outcomes, including decreased learner achievement and teacher burnout. According to the National Centre for Education Statistics survey, only 44% of teachers reported collaborating with other teachers every week, and only 15% reported collaborating daily (NCES, 2018). This lack of collaboration can result in teachers working in isolation, which can lead to feelings of frustration and burnout.

Research has also shown that collaboration can improve learners' outcomes. A meta-analysis of 49 studies found that collaborative professional development for teachers had a positive impact on learners' achievement (Goddard et al., 2017). Opfer and Pedder (2016) highlight that collaboration among teachers led to higher learner engagement and motivation. One reason for insufficient collaboration may be that teachers have limited time to work together. A survey of teachers in the United States found that lack of time was the most common barrier to collaboration (Learning First Alliance, 2016). Another factor may be that teachers have different teaching styles and beliefs, making collaboration challenging (Opfer & Pedder, 2016). To address these challenges, schools and districts could implement strategies to promote collaboration among teachers, and educational institutions could provide dedicated time for teachers to meet and collaborate and could encourage teachers to learn from one

another (Opfer & Pedder, 2016). Schools could also provide professional development opportunities focusing on collaboration and teamwork (Goddard et al., 2007).

2.5.2 Lack of teacher's subject content knowledge

To meet the needs and challenges of learners in the 21st century, EMS teachers must possess a deep understanding of their subject matter. Subject matter knowledge is the knowledge and expertise teachers have within their field of specialisation. Teachers' professional competence is based on their knowledge of the subject matter. EMS teachers need to be familiar with contemporary theories of teaching and learning, as well as evidence-based practices and their implementation in their classrooms. EMS teachers may struggle to effectively address learners' concerns, clarify misunderstandings, or facilitate challenging learning situations without a solid foundation in subject content knowledge.

According to Dlamini (2020), teachers need to develop new competencies and skills to keep up with the modern world's ever-changing demands. Furthermore, this means that EMS teachers must be able to understand the content they are teaching and implement it per policy. The current curriculum is highly prescriptive and performance-based, and dictates the subject matter and pace of coverage. Unfortunately, this often results in teachers prioritising content coverage over helping learners comprehend the material (Shulman, 1987).

In today's ever-changing society, teachers have a significant role to play that goes beyond just teaching. They should also show, guide, facilitate, and initiate learning communities (Dlamini, 2020). This duty requires them to broaden learners' understanding in various subjects. However, according to Magnusson et al. (2010), there is a concern that subjects such as EMS are assigned to teachers who may not have the necessary subject content knowledge. This is a problem that needs to be addressed. In addition, to effectively implement cooperative learning, teachers must consider several factors, including their knowledge of the procedures, curriculum alignment, and school policy (Dlamini, 2020).

2.5.3 Creating a comprehensive learning environment

Creating a successful learning environment in schools can be challenging for teachers. One of the greatest challenges is the diverse range of skills and backgrounds that learners bring to the classroom. Some learners may have a solid foundation in EMS, while others may struggle with the concepts. To address this challenge, educators must be able to differentiate instruction to meet all learners' needs.

According to Darling-Hammond and Bransford (2005), the rapidly changing nature of the EMS field, with innovative technologies and the globalisation of markets, means that the subject matter is constantly evolving. EMS teachers must stay current with the latest research and trends in the field to ensure they provide learners with relevant and timely information.

Integrating theoretical concepts with practical applications is necessary. Although EMS is often viewed as a theoretical discipline, learners also need to understand how these concepts apply in real-world situations. To address this challenge, EMS educators should incorporate case studies, simulations, and other experiential learning activities into their instruction (Koehler & Mishra, 2008).

EMS teachers need to promote critical thinking and skills. In EMS, learners need to be able to analyse data, evaluate arguments, and make informed decisions. This ability suggests a profound understanding of the subject matter and the capacity to apply this knowledge innovatively (Hiebert & Morris, 2012). However, to promote these skills, EMS teachers must provide opportunities for learners to practice critical thinking and problem-solving in various contexts and encourage collaboration and teamwork. In today’s global economy, many businesses operate in a team-based environment (Opfer & Pedder, 2016).

2.5.4 Lack of pedagogical content knowledge (PCK)

Pedagogical content knowledge is crucial for effective teaching, as it integrates subject matter expertise with the ability to present content in a manner that is comprehensible to learners (Shulman, 1987). However, many teachers face challenges in developing their PCK, affecting their practical teaching ability (Dlamini, 2020). A lack of PCK means that teachers may struggle to connect theoretical concepts with practical applications, making it difficult for learners to grasp complex ideas (Dlamini, 2020). This issue is particularly evident in mathematics and science, where conceptual understanding is crucial for learner success (Kind, 2009).

One of the primary reasons teachers struggle with PCK is the inadequacy of teacher training programmes (Shulman, 1986). Many teacher education programmes focus heavily on subject content without sufficiently addressing how to teach that content effectively (Dlamini, 2020). As a result, teachers may enter classrooms with strong theoretical knowledge but struggle to break down concepts into manageable learning units (Magnusson et al., 2010). Without proper training in instructional strategies and assessment methods, teachers may struggle to adapt their teaching to meet the needs of diverse learners (Grossman et al., 2009).

Another challenge in developing PCK is teachers' lack of continuous professional development opportunities (Van Driel et al., 2002). Many educators receive minimal support after their initial training, making improving their instructional practices challenging (Shulman, 1987). Research indicates that ongoing professional development is crucial in enhancing PCK by providing teachers with new teaching strategies and assessment techniques (Gess-Newsome et al., 2019). However, many school systems do not prioritise PCK development, leaving teachers to rely on personal experience rather than structured learning (Borko et al., 2010).

A further issue affecting PCK development is teachers' high workload and time constraints (Shulman, 1986). Many educators struggle to balance lesson planning, grading, and administrative tasks, leaving little time to focus on improving their teaching methods (Darling-Hammond & Bransford, 2005). This lack of time can prevent teachers from engaging in reflective practices, such as analysing learners' misconceptions or experimenting with new instructional strategies (Van Driel et al.,

2002). Without dedicated time for professional growth, teachers may continue to use ineffective teaching methods, thereby limiting learner learning outcomes (Gess-Newsome et al., 2019).

The absence of mentorship and collaboration among teachers also contributes to the challenge of improving PCK (Abramson et al., 2019). In many schools, teachers work in isolation, limiting opportunities for peer learning and sharing best practices (Opfer & Pedder, 2016). Studies have shown that collaborative learning environments, where teachers observe each other's lessons and provide feedback, significantly enhance PCK development (Abramson et al., 2019). However, without a culture of collaboration, teachers miss valuable opportunities to refine their teaching approaches (Van Driel et al., 2002).

Addressing the lack of PCK requires a multifaceted approach that includes improved teacher education programmes, ongoing professional development, reduced workloads, and increased collaboration (Gess-Newsome et al., 2019). By investing in these areas, education systems can ensure teachers are equipped with subject knowledge and effective teaching strategies (Shulman, 1987). Strengthening PCK will improve learner outcomes, as teachers will be better equipped to explain complex concepts and engage learners meaningfully (Opfer & Pedder, 2016).

Pedagogical content knowledge (PCK) refers to the knowledge teachers possess about how to teach specific content effectively to enable learners to understand and teach it. In the context of EMS education, PCK is particularly important because the subject matter is complex and abstract, requiring teachers to possess a deep understanding of economics and business concepts and effective teaching strategies for learners. However, research has shown that many primary school teachers lack the necessary PCK to teach EMS effectively (Chen et al., 2020).

2.5.5 Resource and Training

One of the primary sources of PCK in EMS education is inadequate teacher training. Many primary school teachers received limited training in economics and business concepts and may not have had the opportunity to develop the pedagogical skills needed to teach these concepts effectively (Cheng et al., 2020). In addition, many EMS teachers may not have access to higher-quality resources and teaching materials

to support their EMS teaching (Vescio et al., 2008). Additionally, there is a lack of relevance between the subject matter and learners' lives. Many learners may not see how the economics and business concepts they are learning apply to real life, making it hard for them to engage in class. This can also make it difficult for teachers to teach these concepts effectively, as they may struggle to make them relevant and engaging for their learners.

According to Vescio et al. (2008), curriculum and assessment practices in EMS education can also contribute to the lack of PCK among primary school teachers. Sometimes, the curriculum may be overly focused on theoretical concepts and fail to provide sufficient opportunities for learners to apply them in real-world situations. Similarly, assessment practices may not align with the pedagogical goals of EMS education, making it difficult for teachers to teach EMS effectively.

Economic and Management Sciences education in South Africa faces significant challenges, particularly in enhancing teachers' PCK. A critical issue is the lack of adequate resources and specialised training for EMS educators, which hampers their ability to deliver integrated and effective instruction (Department of Basic Education, 2019).

Integrating accounting, business studies, and economics into the EMS curriculum requires teachers to understand these disciplines comprehensively. However, many educators struggle with this integration due to insufficient training and resources. Research indicates that EMS teachers often teach these subjects in isolation, reflecting their training in specific commerce disciplines, rather than adopting an integrated approach mandated by the curriculum (Mestry, 2019).

The lack of specialised training programmes that address the unique needs of EMS educators exacerbates this challenge. Teachers, especially those accustomed to traditional disciplinary methods, often lack the integrated knowledge necessary to teach effectively. The Curriculum and Assessment Policy Statement (CAPS) requires teachers to adopt an integrated approach to EMS. However, research reveals educators often resort to isolated teaching methods, exposing learners to separate disciplinary perspectives (Department of Basic Education, 2019).

Moreover, according to Vescio et al. (2008), the lack of adequate teaching resources, such as suitable accounting stationery and financial calculators, hinders effective instruction. In rural areas, the lack of facilities, like banking institutions and shopping centres, limits teachers' ability to provide learners with concrete experiences of accounting concepts and practices used in the real world.

The inadequacy of in-service training programmes also contributes to the problem. Teachers often participate in short, didactic workshops that lack continuous support, resulting in ineffective professional development. This situation underscores the need for comprehensive CPD programmes tailored to the specific challenges faced by EMS educators (Department of Basic Education, 2019).

Addressing these issues requires a multifaceted approach that includes revising teacher education programmes to emphasise integrated teaching strategies, providing context-specific training that considers the resource constraints of different school environments, and ensuring ongoing professional development opportunities. Such measures are essential to enhance EMS teachers' PCK and improve the quality of education in this field.

2.5.6 EMS teaching time allocation

Economic and management sciences are crucial in the South African school curriculum, particularly in Grades 7 to 9. The subject aims to equip learners with foundational knowledge about the economy, financial literacy, entrepreneurship, and business management (DBE, 2011). Teaching time for EMS is structured within the CAPS, which provides guidelines on time allocation and content coverage (CAPS, 2011). EMS is typically allocated two to three hours per week, depending on the school’s scheduling, to ensure learners develop a basic understanding of economic principles (DBE, 2011).

The CAPS document determines how EMS is taught and assessed in South African schools. CAPS provides a structured framework that specifies topics, assessment standards, and the progression of concepts over the three years (DBE, 2011). The curriculum balances theoretical knowledge with practical applications, ensuring learners gain conceptual understanding and real-world problem-solving skills (CAPS, 2011). Time allocation ensures that learners are exposed to all aspects of EMS,

including financial literacy, entrepreneurship, and the economy, without overburdening them (DBE, 2011).

One of the key advantages of the CAPS system for EMS teaching is that it standardises the learning experience across different schools (DBE, 2011). Teachers follow a prescribed curriculum, which helps maintain consistency in the quality of education regardless of geographical location or school resources (CAPS, 2011). This structured approach enables educators to plan lessons effectively and ensures that all learners are assessed fairly per national guidelines (DBE, 2011). However, some critics argue that this rigid structure limits teachers' flexibility in adapting lessons to suit learners' unique needs (Msimanga, 2017).

Despite its benefits, implementing EMS teaching within CAPS also faces challenges. Some schools, particularly in underprivileged areas, struggle with resource limitations, making it difficult to provide practical experiences such as business simulations or financial literacy activities (Msimanga, 2017). Additionally, teachers often have to deal with large class sizes, which can impact the effectiveness of EMS instruction (DBE, 2018). To address these challenges, ongoing teacher training and additional support materials are essential in ensuring all learners receive quality education in EMS (DBE, 2011).

The CAPS curriculum also emphasises assessments as a fundamental part of EMS teaching. Learners are evaluated through formal and informal assessments, including tests, projects, and presentations (DBE, 2011). This approach enables educators to monitor learners' progress and identify areas for improvement (CAPS, 2011). However, some educators argue that focusing on assessments can pressure learners and reduce the time for interactive and creative teaching methods (Msimanga, 2017).

Overall, the allocation of EMS teaching time and the role of CAPS ensure a structured and standardised learning environment in South African schools. While the curriculum provides a clear framework for instruction, challenges such as resource limitations and assessment pressures need to be addressed to maximise its effectiveness (Msimanga, 2017). By continuously improving teacher training and integrating more practical learning experiences, the quality of EMS education can be enhanced, preparing learners for future economic and business opportunities (DBE, 2018).

2.5.7 Educators capability

Teaching is a complex and challenging profession that requires a wide range of skills and knowledge. Teachers need to be knowledgeable in their subject matter, skilled in instructional practices, and adept at managing learners' behaviour and creating a positive learning environment. However, many teachers feel they are not adequately prepared for the challenges they face in the classroom and lack the necessary training and support to be genuinely effective educators (Msimanga, 2017).

Improving the PCK of EMS teachers in the Lejweleputswa district is crucial for enhancing the quality of education (Journal of World Englishers and Education, 2020). Teachers' capability plays a significant role in this process, as their expertise and adaptability directly impact learners' understanding of the subject. Research highlights that professional learning communities can be established to foster collaboration among teachers, enabling them to share best practices and address common challenges. These communities provide a platform for continuous professional development, ensuring teachers remain updated with the latest pedagogical strategies (Abramson et al., 2019).

Gess-Newsome et al. (2019) assert that one effective strategy is the integration of collaborative lesson planning. This approach enables teachers to pool their knowledge and design lessons that cater to learners' diverse needs. Studies have shown that collaborative planning enhances teachers' confidence and competence in delivering complex EMS concepts. Additionally, incorporating technology into lesson planning can improve the teaching process, as digital tools offer innovative ways to present information and engage learners.

Continuous training workshops are another vital strategy for enhancing PCK. These workshops aim to equip teachers with the necessary skills to address misconceptions and gaps in content knowledge. For instance, thematic workshops on financial literacy and entrepreneurship can help teachers better understand and teach these critical components of the EMS curriculum. Such training sessions also provide opportunities for teachers to reflect on their teaching practices and identify areas for improvement (Abramson et al., 2019).

Mentorship programmes can be implemented to support novice teachers in the district. Pairing experienced educators with newcomers fosters a culture of learning and growth. Mentors can guide mentees in developing effective teaching strategies and navigating the challenges of the EMS curriculum. This approach enhances the PCK of novice teachers and strengthens the overall teaching community.

The use of integrated teaching methods is essential for addressing the interdisciplinary nature of EMS. To provide learners with a holistic understanding of the curriculum, teachers must receive training to connect concepts across different subjects, such as accounting and entrepreneurship. This integration aligns with curriculum reforms that emphasise real-world applications of knowledge, preparing learners for future challenges (Abramson et al., 2019).

Ultimately, leveraging data-driven insights can help pinpoint specific areas where teachers require support. Regular assessments of teachers' PCK can inform targeted interventions, ensuring that resources are allocated effectively. By combining these strategies, the Lejweleputswa district can enhance the capabilities of its EMS teachers, ultimately improving learner outcomes and fostering a culture of academic excellence.

2.5.8 Technological Challenges

Many teachers feel underprepared in the use of technology in the classroom. A report by the National Centre of Education Statistics (NCES) finds that only 20% of US teachers reported feeling" very well prepared" to use technology in the classroom. Many teachers have reported being overwhelmed by the rapidly changing technological landscape, and many reflect on not being able to fully leverage the potential of technology to enhance learners' learning (NCES 2019).

Integrating technology into educational settings has become increasingly prevalent, aiming to enhance teaching and learning experiences. However, this integration presents several challenges that can impede teachers' ability to develop and apply their PCK effectively. These challenges include limited access to technological resources, insufficient training, resistance to change, and the need for ongoing professional development (Johnson & Down, 2017).

Anderson (2010) asserts that one significant barrier is the limited access to technological resources. In many educational institutions, especially those in underprivileged areas, there is a scarcity of necessary technological tools and reliable internet connectivity. This lack of resources hampers teachers' efforts to incorporate technology into their teaching practices, thereby limiting opportunities to enhance their PCK. According to Johnson and Down (2017), external factors such as access to resources significantly influence technology integration in classrooms.

Insufficient training and professional development exacerbate the issue further. Many teachers have not received sufficient training to use technology effectively in their instruction. This deficiency leads to a lack of confidence and competence in integrating technological tools, which is crucial for advancing PCK. A study by Means and Neisler (2021) highlight that the absence of proper training during the COVID-19 pandemic posed significant challenges for teachers , affecting their ability to integrate technology into teaching and learning.

Resistance to change also plays a critical role in the challenges faced by educators. Some teachers are hesitant to adopt new technologies due to ingrained traditional teaching methods or scepticism about the effectiveness of technological integration. This reluctance can hinder the development of teaching strategies necessary for PCK. Johnson and Down (2017) argue that internal factors, including teachers' attitudes and beliefs, have a significant impact on the successful integration of technology in educational settings.

Moreover, the rapid pace of technological advancement necessitates continuous professional development. Teachers must stay up to date with emerging technologies and their pedagogical applications to effectively integrate them into their teaching practices (Anderson, 2010). However, the lack of ongoing training limits teachers' ability to keep pace with these advancements, affecting their PCK. The Department for Education in the UK emphasizes the importance of continuous professional development to meet technological challenges in education (UNESCO Institute for Statistics, 2020).

Integrating technology can also lead to classroom management issues, such as increased screen time and potential distractions. Teachers must develop strategies to

mitigate these challenges to maintain an effective learning environment. Excessive screen time in classrooms has led to concerns among learners and educators, highlighting the need for balanced technology use (Anderson, 2010).

While technology can significantly enhance teaching and learning, various challenges hinder teachers' ability to improve their PCK through technological integration. Addressing issues related to resource availability, training, resistance to change, and ongoing professional development is crucial. By overcoming these barriers, educators can effectively harness technology to enrich their teaching practices and enhance learner learning outcomes (Hennessy et al., 2005).

2.5.9 Overcrowded classroom

Overcrowded classrooms present a significant challenge for teachers in South Africa, particularly in enhancing their PCK. The excessive number of learners in a single classroom limits the educator's ability to implement effective teaching strategies and provide individualised attention, essential for developing a deep understanding of the subject matter and pedagogical techniques. For instance, in the Limpopo province, some classrooms accommodate up to 90 learners, making it nearly impossible for teachers to manage and deliver quality education effectively (Salvatore, 2024).

The physical constraints of overcrowded classrooms further exacerbate the situation. Limited space hampers the organisation of interactive and engaging learning activities, which are essential for effective teaching. Teachers in the OR Tambo Coastal District have reported that inadequate classroom space and resources hinder their ability to implement diverse instructional methods, affecting their PCK development (Ntsanwisi, 2024).

Moreover, the high learner-to-teacher ratio in overcrowded classrooms increases educators' workload and stress. The necessity to manage large groups of learners often results in teachers adopting more general teaching methods rather than tailoring instruction to meet the individual needs of learners. This approach limits opportunities for teachers to refine their pedagogical skills and adapt content delivery effectively (Abuhasanein et al., 2025).

Ntsanwisi (2024) asserts that disruptive behaviour is another consequence of overcrowded classrooms, further challenging teachers' ability to maintain effective learning environments. The difficulty in managing classroom discipline detracts from instructional time and impedes implementing innovative teaching strategies vital for PCK enhancement.

According to Salvatore (2024), the cumulative effect of these challenges is detrimental to the overall quality of education. These challenges stifle teachers' professional development, resulting in a subpar learning experience for learners. Addressing the issue of overcrowded classrooms is crucial to empowering educators to enhance their PCK and deliver effective instruction. This includes investing in educational infrastructure, recruiting more teachers to reduce class sizes, and providing professional development programmes that equip educators with practical strategies to manage large classrooms (Ntsanwisi, 2024).

The prevalence of overcrowded classrooms in South Africa poses a significant barrier to improving teachers' PCK. By implementing targeted interventions to reduce class sizes and support educators, the education system can create an environment conducive to effective teaching and learning, ultimately leading to improved educational outcomes.

2.5.10 Classroom management and discipline

Classroom management and discipline are critical components in developing teachers' PCK. Effective classroom management establishes an environment conducive to learning, allowing educators to implement pedagogical strategies that enhance learner understanding. However, challenges in maintaining discipline can hinder this process. For instance, a study in Gauteng high schools identified large class sizes and insufficient parental involvement as significant obstacles to effective classroom management (Ntsanwisi, 2024).

Abolishing corporal punishment in South African schools necessitated adopting alternative disciplinary measures. Teachers have since relied on verbal discipline to address misconduct, but its effectiveness varies. Research indicates that while verbal discipline is commonly used, it can be stressful and challenging for educators, often requiring repetition without guaranteeing success (Creswell & Creswell, 2017). This

reliance on verbal methods can limit teachers' time and energy to focus on enhancing their PCK.

Moreover, learners' diverse cultural backgrounds present additional challenges in discipline management. Teachers must navigate varying cultural norms and expectations, which can complicate establishing a cohesive classroom management strategy. A study highlighted that understanding and integrating cultural responsiveness into disciplinary practices is essential for creating a positive learning environment (Ntsanwisi, 2024). Discipline issues may undermine efforts to improve PCK without such integration.

Collaboration with stakeholders, including parents, community members, and law enforcement, has been identified as crucial in effective discipline management. Engaging these stakeholders can provide support and resources that alleviate some of the disciplinary burdens on teachers, allowing them to concentrate more on pedagogical development. Research emphasises the importance of a whole-school approach to discipline, involving all stakeholders in implementing the school's code of conduct (Opfer & Pedder, 2016).

However, implementing such collaborative strategies is not without challenges. Teachers often have difficulties aligning school discipline policies with positive behavioural interventions, particularly in disadvantaged urban schools. A study found that a lack of cohesive, evidence-based school-wide behaviour plans often leads to continued reliance on reactive and punitive approaches (Opfer & Pedder, 2016). This misalignment can impede the development of effective PCK because teachers are preoccupied with managing behavioural issues.

Although classroom management and discipline are integral to enhancing teachers' PCK, various challenges persist. Addressing issues such as large class sizes, cultural diversity, and the need for stakeholder collaboration is essential. Implementing proactive, culturally responsive, and collaborative disciplinary strategies can create a more conducive learning environment, thereby facilitating the development of teachers' pedagogical content knowledge.

2.8 THE DEPARTMENT OF EDUCATION

The Department of Education is critical in improving the PCK of EMS teachers in primary schools and promotes research practices in primary schools. Badat and Sayed (2014) note that, by funding research and evaluation programmes, the department can help identify effective teaching practices and develop evidence-based recommendations for improving PCK among EMS teachers (Banihani, 2023). Moreover, this can help ensure that EMS teachers are equipped with the knowledge and skills they need to teach their learners effectively, leading to better outcomes for learners and more effective EMS in the education system (DBE, 2010).

The Department of Education must create curriculum standards that reflect the most recent advancements in the field of EMS. By working with educators, researchers, and other stakeholders, the department must implement and ensure that curriculum standards are up-to-date and relevant to the needs of learners and teachers in primary schools. Such efforts can help ensure that EMS teachers have a solid foundation in PCK, which is essential for effective teaching (DBE, 2010).

Through targeted initiatives, the DBE has the potential to significantly improve the EMS teachers' PCK. PCK, which merges subject expertise with effective teaching strategies, is crucial for helping learners understand complex concepts. By implementing professional development programmes, the DBE can effectively equip educators with the necessary tools to integrate pedagogy and content knowledge (DBE, 2008).

One effective strategy is to offer continuous professional development workshops tailored to EMS teachers. These workshops can introduce innovative teaching methods, such as inquiry-based learning and problem-solving techniques, which have been shown to enhance PCK. Collaboration with universities and educational institutions can also provide specialised training programmes that address the unique challenges of teaching EMS.

Banihani (2023) argues that another approach involves creating and distributing high-quality teaching resources. The DBE can develop comprehensive lesson plans, teaching guides, and digital tools that align with the curriculum, helping EMS teachers deliver engaging lessons. These materials may include case studies, real-world

examples, and interactive activities to make the subject more relatable and accessible to learners.

Abramson et al. (2019) assert that mentorship programmes can strengthen PCK. Pairing novice EMS teachers with experienced mentors facilitates the exchange of best practices and insights into effective teaching strategies. Mentors can provide guidance on lesson planning, classroom management, and adapting teaching methods to meet learners' diverse needs.

Furthermore, the DBE can promote research and reflective practice among EMS teachers. Encouraging a culture of continuous improvement enables educators to analyse their teaching methods, identify areas for growth, and implement evidence-based strategies to enhance their Professional Capacity for Knowledge (PCK). Such efforts can be supported through access to academic journals, research databases, and professional networks.

Gess-Newsome et al. (2019) suggest integrating technology in education can significantly enhance PCK. The DBE can provide training on using digital tools and platforms to create interactive and dynamic learning environments. Technology can help teachers present complex economic and management concepts visually engagingly, making them easier for learners to grasp.

2.9 EMS CURRICULUM CHANGES IN SOUTH AFRICA

The South African education system has undergone significant transformations since the establishment of democracy, particularly in the EMS curriculum. Despite these changes, limited research has been conducted on economic education within schools. The reform of the EMS curriculum introduced substantial modifications to teaching, learning, and assessment, leading to the reconceptualisation and redesign of EMS as an integrated subject. EMS combines accounting, business studies, and economics to equip learners with critical thinking, communication, mathematical, analytical, and organisational skills (DOE, 2020).

EMS learners must engage in critical thinking and problem-solving to develop these competencies. However, achieving such goals requires proficient teachers in both subject content and effective teaching strategies. EMS educators must possess

accounting, business studies, and economics knowledge while integrating these disciplines to prepare learners for post-school environments (DOE, 2020).

The integration of EMS into the Senior Phase was driven by the implementation of the National Curriculum Statement (NCS) in 2003, followed by the revised CAPS in 2010. This shift necessitated innovative and creative teaching approaches, emphasising the role of teachers as active agents in shaping policy through their classroom practices.

Teachers' responses to curriculum changes are influenced by their beliefs, experiences, and ideologies. Educators do not merely implement curriculum changes but adapt them based on their experiences. Ngwenya and Nzuza (2022) suggest that experienced teachers often resist altering their established practices, which are deeply rooted in their accumulated knowledge. Consequently, while curriculum changes theoretically require significant shifts in content and instructional methods, teachers may resist or modify the curriculum to align with their existing practices.

Priestley (2011) highlights that teachers facing curriculum changes may experience uncertainty regarding expectations and their ability to implement new approaches successfully. Ngwenya and Nzuza (2022) identify challenges in EMS education by emphasising the need for teachers to master and understand the evolving content of accounting, business studies, and economics. The continuous development of these disciplines makes it difficult for a single educator to remain updated, leading to stress and difficulty in applying content to real-life situations.

Similar challenges have been observed in other integrated subjects, such as science education in Lesotho, where teachers focus on their specialised training rather than holistically teaching the subject. Many EMS teachers in South Africa face this issue, having received training in specific disciplines instead of EMS as an integrated subject. Ngwenya and Nzuza (2022) found that teachers in KwaZulu-Natal rural schools were often reluctant to teach EMS.

Priestley (2011) asserts that educators must adopt an integrated approach to EMS instruction, covering economics, accounting, and business studies. However, many teachers lack experience in all three disciplines, particularly accounting, which they must teach despite limited exposure. This gap becomes evident when Grade 7

learners transition to the Further Education and Training (FET) phase, where specialised knowledge is essential.

2.10 DIVERSE LEARNER NEEDS

In contemporary classrooms, teachers encounter a wide range of learner needs shaped by differences in cognitive abilities, cultural backgrounds, and socio-economic conditions. Addressing these diverse needs requires educators to refine their PCK, the ability to blend subject expertise with effective teaching strategies. Research suggests that differentiated instruction, tailoring teaching methods to individual learners, is crucial in meeting diverse learner needs. Classrooms reflect a rich tapestry of diversity, with learners bringing unique cultural backgrounds, prior knowledge, learning preferences, and personal challenges. Teachers must recognise and address these differences to foster an effective learning environment. When learners feel that their individual needs are valued, they tend to engage more deeply with lessons, actively contribute to discussions, and help cultivate a positive classroom culture. Conversely, neglecting these needs can lead to isolation, frustration, or disrespect, which may result in disengagement or disruptive behaviour (Agumba & Dasoo, 2024).

One of the primary challenges teachers face is accommodating learners with varying academic abilities within the same classroom. Some learners grasp concepts quickly, while others require additional support and alternative instructional methods. To bridge this gap, educators must develop a deep understanding of how learners learn and adapt their teaching strategies accordingly. Studies indicate that teachers with strong PCK can effectively modify lesson plans to cater to different learning styles, thereby improving learner engagement and comprehension (Mofokeng, 2023).

Agumba and Dasoo (2024) assert that cultural diversity further complicates the teaching process, as learners bring unique perspectives, languages, and traditions into the classroom. Teachers must be culturally responsive, ensuring their instructional methods are inclusive and respectful of all backgrounds. Research highlights that educators who integrate culturally relevant pedagogy enhance learner motivation and participation. This process requires continuous professional development and reflection on teaching practices.

Another challenge is integrating technology to support diverse learning needs. Digital tools can facilitate personalised learning experiences, but teachers must possess the PCK required to incorporate these resources effectively into their instruction. Studies indicate that educators who leverage technology strategically can improve learner outcomes, particularly for learners who require additional support. However, such improvement demands ongoing training and adaptation to emerging educational technologies (Gess-Newsome et al., 2019).

Assessment strategies also play a crucial role in addressing diverse learner needs. Traditional standardised tests may not accurately reflect the abilities of all learners, necessitating alternative assessment methods that align with diverse learning styles. Teachers with strong PCK employ formative assessments, peer evaluations, and project-based learning to gauge learner progress more effectively. This approach ensures that all learners receive meaningful feedback and opportunities for improvement (Mofokeng, 2023).

In conclusion, diverse learner needs require teachers to continuously refine their PCK through professional development, adaptive teaching strategies, and inclusive practices. By embracing differentiated instruction, cultural responsiveness, technology integration, and varied assessment methods, educators can create equitable learning environments that support all learners. Addressing these challenges enhances teaching effectiveness and fosters a more inclusive and dynamic educational experience.

2.11 INDICATORS FOR SUCCESSFUL IMPLEMENTATION OF STRATEGIES

In South Africa, the national DBE has developed a curriculum for environmental education that emphasises the use of technology to support teaching and learning and encourages teachers to use online resources, such as the South African Environmental Observation Network, to access data and information on educational issues (National Science Foundation, 2022). A study by Coetzee (2018) found that teachers who underwent a professional development program focused on improving PCK in EMS showed significant improvements in their teaching practices. The program included workshops and classroom observations that allowed teachers to reflect on their teaching practices and receive feedback on improving.

The Australian Curriculum, Assessment and Reporting Authority (2014) has developed a national curriculum that includes environmental education, emphasising the use of technology to support learning and teaching. The National Science Foundation (NSF) in the United States encourages teachers to use digital simulations and models to aid learners in understanding EMS content. The NSF in the United States has provided funding to assist various educational programs that empower educators through additional training and workshops (Australian Curriculum, Assessment, and Reporting Authority, 2014).

In 2018, the Federal Ministry of Education launched a program to improve education quality in Nigeria. As part of this program, the government trained primary school teachers at EMS to improve their PCK. The training focused on developing the teachers' practical understanding of key economic concepts for their learners (Premium Times Nigeria, 2018).

In Europe, the European Commission has launched several initiatives to improve the quality of education in member states. One such initiative was the Entrepreneurial School programme, which aimed to promote entrepreneurial education in primary schools. This program also provides teachers with training and resources to help them develop their PCK in EMS and their ability to teach entrepreneurial skills (European Commission, 2019).

2.12 THREATS THAT OBSTRUCT THE IMPROVEMENT OF TEACHERS' PCK AND CK

Resistance to change and a lack of motivation among teachers who may not see the value or relevance of PCK approaches in their teaching practices hinder progress in teaching EMS (Vescio et al., 2008). John and Down (2017) emphasise that a lack of support and leadership from school administrators, who may not prioritise or allocate resources for implementing PCK approaches, poses a significant threat to improving PCK. Limitations in access to resources and technology in schools are another issue that may be inherent in supporting effective collaboration and knowledge-building among teachers (Lee & Song, 2017). Time constraints and competing priorities, such as administrative tasks and lesson planning, which may limit the amount of time teachers can dedicate to collaborative learning and knowledge-building activities, are

a further issue that is increasingly becoming a concern (Hord, 2009). A lack of funding for professional development programs, monitoring programmes, and resources can hinder teachers' ability to improve their PCK.

2.13 ELEMENTS OF STRATEGIES TO ENHANCE PCK

2.13 1 Classroom observation

Classroom observation is a crucial tool in educational settings, designed to enhance teaching practices, foster learner engagement, and assess learning outcomes. It involves systematically watching and analysing classroom interactions and dynamics, providing insights into the effectiveness of teaching strategies and learning environments. According to Schoenfeld (2013), classroom observations allow educators to identify strengths and areas for improvement, fostering a culture of continuous professional growth and development.

One primary purpose of classroom observation is to assess the impact of teaching methods on learner learning. For instance, formative observations can reveal how effectively learners respond to collaborative learning techniques, as highlighted by Opfer and Pedder (2016). Such information helps educators refine their strategies to cater to learners' diverse needs, ultimately improving academic performance.

Furthermore, classroom observation plays a vital role in promoting reflective teaching. Teachers can use feedback from their observations to analyse their instructional approaches and adapt to changing classroom dynamics. Schoenfeld (2013) noted that reflection is a cornerstone of effective teaching, encouraging educators to align their practices with learners' developmental and cognitive needs.

An equally important aspect of classroom observation is its contribution to fostering learner engagement. Observing learner behaviour and participation provides valuable insights into the factors that motivate and hinder learning. Research by Schoenfeld (2013) highlights the importance of actively engaging learners, emphasising that meaningful participation enhances retention and comprehension.

Additionally, classroom observation helps create a supportive learning environment. Observers can identify potential challenges, such as disruptive behaviour or inequities

in resource distribution, and collaborate with teachers to address them. According to Agumba and Dasoo (2024), a positive classroom environment fosters academic and social growth among learners.

Lastly, classroom observation is a mechanism for evaluating educational policies and initiatives. It provides empirical data to inform decision-making and measure the effectiveness of implemented changes. For example, Agumba and Dasoo (2024) emphasise that understanding the actual impact of educational reforms requires observing how they manifest in real-world classroom settings.

2.13.2 Lesson plans material analysis

Lesson planning and material analysis are integral components of effective teaching. They ensure that educators deliver structured and engaging lessons tailored to learners' needs. A well-designed lesson plan outlines a specific lesson's objectives, activities, and assessments, providing a roadmap for teachers and learners. According to Cicek and Hidayet (2013), lesson plans help teachers maintain focus and coherence, ensuring that learning goals are met efficiently.

Material analysis, on the other hand, involves evaluating teaching resources to determine their suitability for achieving lesson objectives (Savage, 2014). This process ensures that materials align with curriculum standards and cater to diverse learning styles. Cicek and Hidayet (2013) argue that analysing materials allows educators to adapt resources to meet their learners' linguistic and cognitive needs, fostering a more inclusive learning environment.

One key aspect of lesson planning is the incorporation of differentiated instruction. Teachers can identify opportunities to modify content, processes, or products by analysing materials to accommodate varying abilities and interests. As noted by Savage (2014), differentiation is essential for promoting equity in education, enabling all learners to access and engage with the curriculum effectively.

Additionally, lesson plans should integrate formative assessments to monitor learner progress and inform instructional decisions. Material analysis is crucial in selecting or designing assessment tools that accurately measure learning outcomes. Cicek and

Hidayet (2013) highlight the importance of formative assessments in providing timely feedback, which helps learners take ownership of their learning journey.

The use of technology in lesson planning and material analysis has become increasingly prevalent recently. Digital tools and resources offer innovative ways to enhance teaching and learning experiences. For example, Koehler and Mishra (2008) discuss the Technological Pedagogical Content Knowledge (TPCK) framework, which guides educators in integrating technology effectively into their lesson plans.

Furthermore, collaboration among educators is vital for successful lesson planning and material analysis. Sharing ideas, resources, and feedback fosters professional growth and improves instructional practices. According to Savage (2014), collective teacher efficacy significantly impacts learner achievement, underscoring the value of teamwork in education.

2.13.3 Peer assessment and feedback

Peer assessment and feedback are powerful strategies for enhancing PCK and are essential for effective teaching. PCK refers to the integration of subject matter knowledge and pedagogy, enabling teachers to deliver content in ways that are accessible and engaging for learners. According to Shulman (1987), PCK is a unique form of teacher knowledge that combines an understanding of what to teach and how to teach it effectively.

Peer assessment enables educators to evaluate one another's teaching practices, offering constructive feedback that promotes professional growth. This process encourages teachers to reflect on their instructional strategies and identify areas for improvement. A study by Mofokeng (2023) highlights that peer assessment promotes collaborative learning and helps teachers gain new perspectives on their teaching methods.

Feedback, as a complementary element, is crucial in enhancing PCK by offering actionable insights into teaching practices. Effective feedback is specific, timely, and focused on improving instructional strategies. Soisangwarn and Wongwanich (2014) and Gupta (2017) emphasise that feedback is one of the most significant influences on learning and achievement, making it a vital tool for professional development.

Integrating peer assessment and feedback also supports the development of reflective teaching practices. Teachers can analyse their peers' feedback to understand their strengths and weaknesses, which leads to more informed instructional decisions. Research by Soisangwarn and Wongwanich (2014) suggests that reflective practices, supported by peer feedback, enhance teachers' ability to adapt their teaching to meet the diverse needs of learners.

Moreover, peer assessment and feedback foster collaboration and mutual support among educators. Teachers can share best practices, resources, and innovative teaching strategies by engaging in these practices. This collaborative approach aligns with the findings of Agumba and Dasoo (2024), who developed a peer-coaching model to enhance PCK among preservice science teachers.

In conclusion, peer assessment and feedback are essential strategies for enhancing PCK. They improve teaching practices and promote continuous learning and collaboration among educators. By leveraging these strategies, teachers can ensure that their instructional methods are practical and responsive to their learners' needs.

2.14 CONCLUSION

Implementing professional learning communities for PCK can have a positive impact on teachers’ performance, as these approaches foster collaboration, reflection, and ongoing professional development among educators. Hord (2009) asserts that these initiatives can improve instructional practices and increase learners’ learning outcomes. PCK provides opportunities for teachers to share ideas, resources, and feedback with one another and encourages engagement in inquiry-based learning that supports ongoing growth and development. By investing in these collaborative approaches, schools and districts can support their teachers in becoming more effective EMS teachers and improve the quality of education for all learners (Lee & Song, 2017). Enhancing the PCK of primary school teachers in EMS is crucial for improving the quality of education. Strategies, such as professional development programs, training initiatives, and resource development, have been implemented positively in various countries, including South Africa, Europe, Australia, and the United States. These strategies have provided teachers with the knowledge and skills

they need to teach economic and financial concepts effectively, enabling them to help learners develop the skills and knowledge required to succeed.

In the next chapter, the research methodology is presented with justification of the specific choices made with regards to the research approach and design, as well as the data collection tools and data analysis methods selected.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

In the previous chapter, the theory underpinning the study was discussed, along with the literature that addressed the challenges primary schools face in implementing adequate PCK among teachers of EMS. This study explores the difficulties EMS teachers encounter when implementing PCK and the strategies they can employ to overcome these challenges. This study's research approach is based on the core premise that grasping the research design and data is essential (Zukani, 2018). This chapter examines the research design and methodology employed to investigate the strategies that may enhance the PCK of EMS teachers in primary schools within the Lejweleputswa Education District, Free State Province. This chapter aims to clarify the research techniques employed and the methodological procedures implemented in the study, including the sample and the overall research design. The research design is essential for ensuring the validity and reliability of the study's findings, while the methodology details the procedures and techniques employed to collect and analyse data. This chapter describes the research methodology employed to collect data addressing the study's research questions, followed by a description of data collection, participant sampling, data analysis procedures, and the scope of the study.

3.2 RESEARCH METHODOLOGY

Research methodology refers to conducting a systematic and scientific search for information about the studied topic (McCombes & George, 2023). Kothari (2004) supports the assertion, emphasising that research methodology is a systematic approach to solving research questions and addressing the problem. He further explains that it is a systematic effort to acquire knowledge. Similarly, Murthy and Brojanna (2009) define research methodology as a study or research project blueprint. The purpose of research methodology is to establish a framework for the researcher to conduct research systematically and in an organised manner. This study's research methodology has a unique advantage: it provides a comprehensive plan that guides researchers effectively, making the process straightforward, efficient, and attainable (Pandey & Pandey, 2021). This study employs a qualitative methodology, which is

ideal for gathering detailed insight from a smaller group of participants and allowing for flexibility in data collection.

3.3 QUALITATIVE RESEARCH APPROACH

The research methodology is a methodical, interactive, and subjective method employed to portray life events and make sense of them. It is an approach performed at the natural location where the phenomenon is being studied (Addae & Quan-Baffour, 2015). Denzin and Lincoln (2011) explain that qualitative methods involve a detailed investigation of objects in their natural context to comprehend their meaning. Additionally, Denzin and Lincoln (2011) characterise the qualitative research process as a naturalistic inquiry that employs non-intrusive data collection techniques to observe and analyse the natural unfolding of events and processes and how participants make sense of them. Typically, qualitative research analyses social behaviours, beliefs, thoughts, and perceptions (Ritchie et al., 2013).

It is important to note that this approach prioritises gaining a deeper understanding rather than relying on statistical analysis because the context is unique and requires in-depth research. According to Denzin and Lincoln (2011), qualitative research focuses on exploring processes and meanings rather than quantifying or measuring the amount, feelings, or volume of events. Instead, researchers employ the qualitative approach to better understand social phenomena from the participants' perspectives. In this study, the researcher considered these key aspects of qualitative research:

- Purposefully selecting a small-scale sample; and
- The study focuses on participants' thoughts, feelings, and experiences, resulting in independent data.

3.4 RESEARCH DESIGN

Research design is the strategy to logically integrate different study components and inclusive plans for addressing the research topic (Creswell, 2014; Saunders et al., 2020). It establishes data collection, analysis, and interpretation to address the research problem effectively and integrates various research components (Denzin & Lincoln, 2011). Other researchers, such as Clarke (2012) and Bouchrika (2020), assert that a research design is the method for collecting, analysing, interpreting, and

reporting data on research projects. It serves as a strategy that outlines the basic assumptions for selecting respondents, determining data collection methods, and specifying the data analysis. Furthermore, according to Denzin and Lincoln (2011) and Maree (2016), research design is a flexible and adaptive framework that connects theoretical paradigms to investigative strategies and techniques for gathering empirical evidence. The research design framework guides data collection and analysis (Mohajan, 2018). Research design entails making key decisions about a study's scope and methodology, where, when, and how. Conducting an investigation or research study involves making these decisions. Different research designs, including experimental, descriptive, exploratory, and correlational, are each suited to specific research objectives (Saunders et al., 2020). This study employs the descriptive design to elucidate the phenomenon.

The researcher employs a phenomenological research design, as it outlines people's subjective experiences and the significance, they attribute to them (Babbie, 2020). The lived experience of the phenomenon under study is the primary goal of phenomenological qualitative research. It enriches the experience, allowing us to see things from other people's perspectives and free from preconceptions (Saunders et al., 2020). It provides relevant sources and information pertinent to the research topic, addressing the research questions (Mohajan, 2018). A well-defined research design ensures that the study stays focused and generates meaningful results (Babbie, 2020).

We employed the qualitative phenomenology research design to maximise study effectiveness by providing the most information with the least effort (Pandey & Padley, 2021). Through this design, researchers can gain a deeper understanding of the social world by engaging in personal encounters in real-life settings. In other words, researchers gather information in natural environments. This design makes a valid and credible conclusion from the research questions possible. For this study, the questions were formulated based on the strategies for strengthening the pedagogical content knowledge of economic and management sciences teachers within the Lejweleputswa district's primary schools. Through phenomenological research, participants can express their subjective experiences, thoughts, a feelings about a specific phenomenon. In this study, the researcher collected rich descriptive data regarding a

specific phenomenon based on what was witnessed or studied. The focus was on how individuals and groups viewed and understood the world and constructed meaning from their experiences.

3.5 RESEARCH PARADIGM

A research paradigm is a broad strategy, pattern, or perspective employed in a study method and a prerequisite for perception (Creswell, 2021; Tobi & Kampen, 2018). A paradigm emphasises that what individuals notice depends on what they observe (Antwi & Hamza, 2015; Kivunja & Kuyini, 2017). It represents an academic and intellectual thought pattern, structure, framework, or system of attitudes and assumptions (Guba & Lincoln, 1994). Okesina (2020) adds that the paradigm is a researcher's way of thinking and philosophical orientation, which affects what, how, and how sound research is done. It guides the researcher towards a specific methodology, including a particular research approach, design, and methodology. Given the data type needed for the research problem and the feasible methods for collecting and analysing it, the constructivist paradigm is relevant to this academic work.

This research used a constructivist approach to encourage questions and ideas about teachers' PCK for teaching EMS, aiming to understand the difficulties they encounter and the methods they can use to address these challenges in teaching the subject. For this study, a constructivist paradigm was deemed appropriate, enabling the researcher to work collaboratively with participants within their natural settings through face-to-face interviews and focus groups. These methods were designed to facilitate an understanding of the strategies that can be effectively employed to empower participants. The qualitative research method stimulated a wide range of general enquiries. As a result, the gathered data is mainly presented in phrases (or texts) categorised into themes and then analysed (Clarke, 2012).

3.6 PURPOSE OF EMPIRICAL RESEARCH

According to Creswell (2012), empirical research refers to the collection of first-hand data. Pandey and Padley (2021) explain that these types of research involve gathering information directly from experience without relying on theory and assumptions and

are based on observed and measured occurrences. Clarke (2012) posits that empirical research is an effective approach for generating knowledge in the field of education.

The researcher aimed to gather information on teachers' and learners' observations regarding the phenomenon of the absence of PCK. This involved identifying the challenges teachers face in improving their PCK and the lack of practical solutions devised to address these identified barriers. Before conducting the empirical study, the researcher conducted a thorough analysis and review of all available literature, guiding the formulation of interview questions that addressed the aspects observed empirically in the literature. The research process followed for this study are depicted in Figure 3.1 below:

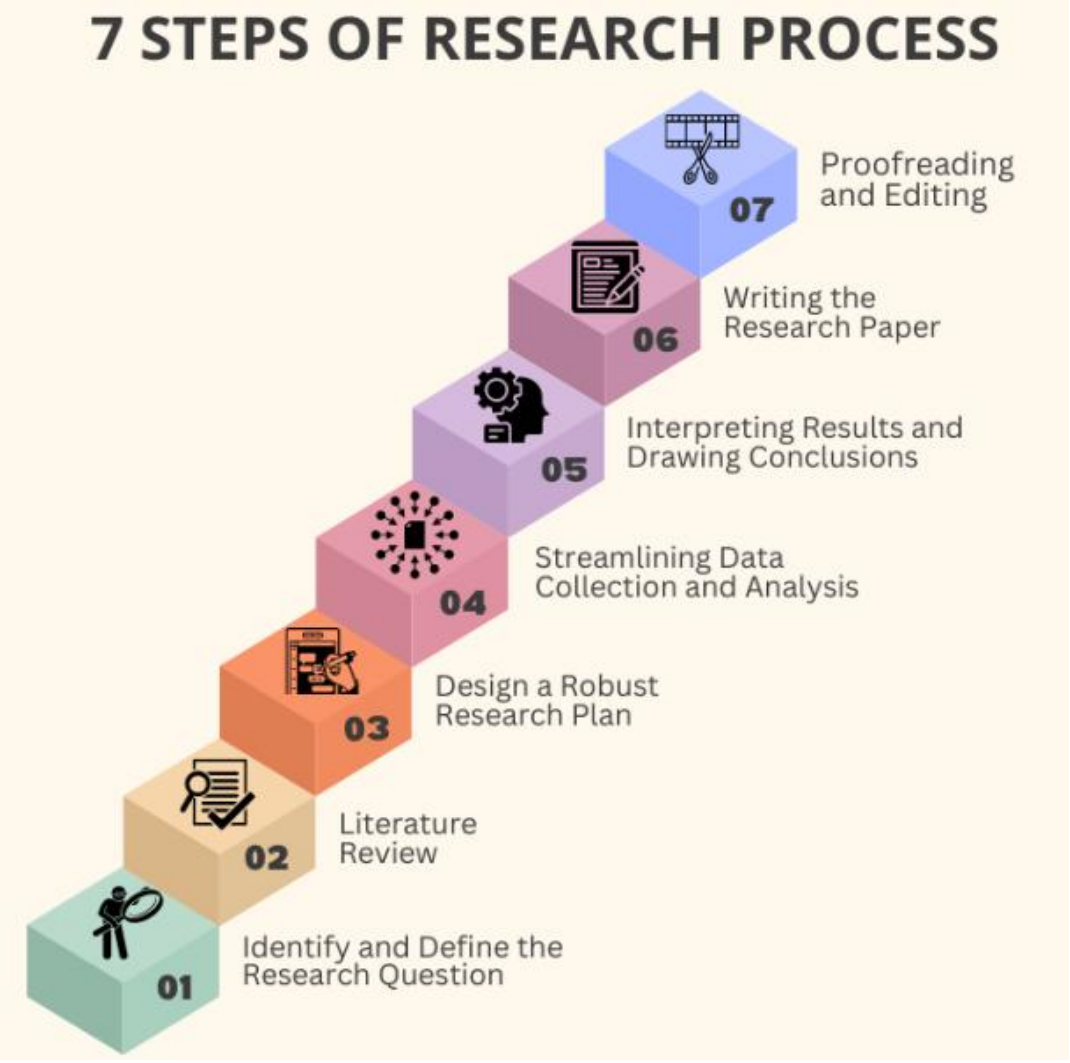

Figure 3.1: Research process

Source: Adapted from Enago Academy (2024)

3.7 RESEARCH POPULATION AND SAMPLING

3.7.1 Population

The study population refers to individuals or groups, such as families, classes, or collections of objects, from which the researcher obtains a sample (Babbie, 2020). According to Bell et al. (2022), a study's population can be defined by geography, demographics, behaviour, or other characteristics pertinent to the research question. This study's population consisted of teachers, principals, LFS, and learners within the Lejweleputswa District in the Free State.

3.7.2 Sampling

A sampling design is a well-thought-out plan created before collecting data to select a representative sample from a defined population (Pandey & Pandey, 2021). According to Kothari (2004), it refers to the researcher's process to determine which elements to include in the sample. It also involves selecting a population segment from which insights or judgments about the entire group are made. Likewise, Creswell (2014) describes sampling design as the method researchers use to choose participants from the population. He emphasizes that this process involves identifying a small, representative group to help predict or estimate certain traits or outcomes within the larger population.

In addition, Igwenagu (2016) highlights that sampling is choosing a group of individuals from a specific population to analyse its characteristics. This involves creating a list of participants who are selected for the study. Delport et al. (2011) define a sample as a portion of the population chosen for the research. Similarly, Mohajan (2018) explains that sampling entails selecting a subset from the population list to reflect the entire group accurately. Creswell and Creswell (2017) also describe a sample as a smaller group randomly drawn from the larger population.

In this study, the researcher selected a team of participants from the population as stated in the section above. The study sample consisted of the researcher using purposive sampling to select the target group, which included the school's three EMS teachers, one LF, three learners, and one principal. Purposive and convenience sampling are techniques used to select a sample with a specific goal in mind; the

criteria for the elements to be examined in the study are predetermined and incorporated into the selection process. Even participants form part of the research on the topic.

Convenience sampling is a type of non-probability sampling in which members of the target population who meet certain criteria, such as being easily available, geographically close by, available at a specific time, or desiring to engage in the research, are picked (Etikan et al., 2016).

Cohen et al. (2011) describe convenience sampling as selecting participants based on their availability and accessibility to the researcher. In this study, convenience sampling was utilised, allowing the researcher to choose participants who were easy to reach and willing to participate (Cohen et al., 2011). Due to their accessibility, the participants were drawn from the Warmbaths circuit. This qualitative convenience sampling approach allowed the researcher to involve individuals with relevant experience, likely to offer meaningful perspectives on implementing inclusive education in mainstream schools.

Purposive sampling is a method where individuals or groups are intentionally selected based on their expertise and familiarity with the topic being studied (Etikan et al., 2016). It also involves choosing participants who are willing, available, and capable of sharing their experiences and viewpoints clearly and thoughtfully. This study used purposive sampling to choose participants according to these criteria, enabling the researcher to gather relevant data needed to answer the research questions.

According to Cohen et al. (2011), purposive sampling enables the researcher to gather sufficient information about the issue under study. The researcher intentionally selected participants and the school to study and comprehend the research question, "What are the challenges teachers face concerning inadequate pedagogical content knowledge among economic and management science teachers?" Convenience sampling is a type of non-probability sampling in which members of the target population who meet specific criteria, such as easy availability, proximity, or willingness to participate in the research, are selected (Etikan et al., 2016).

According to Cohen et al. (2011), convenience sampling is selecting subjects from a population readily accessible to the researcher. This study employed convenience sampling, selecting participants based on ease and comfort (Cohen et al., 2011). The researcher chose participants from the Lejweleputswa district in the Free State due to their accessibility. The qualitative convenience sampling method allowed the researcher to pick experienced participants who were likely to share helpful information about how EMS teachers use pedagogical content knowledge.

The researcher also needed to establish a trusting relationship with the participating teachers to ensure their willingness to engage in the study and the interventions. The researcher's role as a facilitator involved creating a safe and supportive environment for the teacher to share their experiences and concerns and to collaborate on finding solutions to improve their teaching practices (Borko et al., 2010). The researcher's role involved disseminating the study's findings to relevant stakeholders, including school administrators, policymakers, and other teachers, to promote the adoption of effective teaching strategies in EMS education in primary schools.

The sample size for this study was 11 participants, and this number ensured data saturation, where no new information were forthcoming after the 11 interviews.

3.8 DATA COLLECTION PROCEDURE

Data collection systematically gathers data, statistics, objects, symbols, and events from various sources (Etikan et al., 2016). Creswell (2014) considers data as facts and other relevant historical and present resources that serve as the foundation for study and analysis. Mohajan (2018) defines data as information in a format that facilitates the extraction of findings. Two primary data types are qualitative and quantitative (Etikan et al., 2016).

The researcher used qualitative data, as they are relevant to this study (Creswell, 2014). Furthermore, the method allows study participants to express their opinions. Data collection is crucial for this study, as it relies on human experiences and observations. Furthermore, the researcher gathered sufficient information to answer the research questions appropriately.

Data collection is a systematic method of gathering accurate information from multiple sources to provide insights and answers, including evaluating theories or analysing the results (Maree, 2016). According to Kabir (2016), data collection is obtaining and analysing accurate information from diverse sources to identify answers to research problems, trends, and prospects and evaluate future results.

Creswell and Creswell (2017) identify two primary types of data collection: qualitative and quantitative. The researcher employed qualitative data collection technique, enabling the acquisition of sufficient information (Igwenagu, 2016). The author adds that the strategy considers the respondents' descriptions and opinions. The study collected data from a primary school's EMS teachers, principals, learners, and LF. Data for this study were acquired from EMS t

Data collection is a structured approach to gathering and measuring information on specific variables, allowing researchers to address research questions, test hypotheses, and assess outcomes. Etikan et al. (2016) support this view, describing data collection as an organised process of obtaining observations or measurements. Tools used for data collection include various instruments such as interviews, observations, written records, focus groups, photographs, personal narratives, and case studies, all of which help gather relevant research data from teachers and learners through focus group discussions, telephone interviews with an LF, and face-to-face interviews conducted with the principal.

According to Maree (2016), data collection methods can be divided into two main types: primary and secondary. Primary data is obtained directly through interviews, questionnaires, observations, and focus group discussions. In contrast, secondary data is sourced from existing materials like documents and academic journals. For this study, the researcher exclusively utilised interviews and focus group discussions for data collection.

3.8.1 Telephone interview

The telephone interview is an effective tool for gathering data from participants about their current knowledge and understanding of EMS concepts and their strategies for enhancing teachers' PCK and conceptual knowledge. Furthermore, according to

Hennink et al. (2011), the telephone interview offers several advantages over other data collection methods, like face-to-face interviews, including cost-effectiveness and the ability to reach a broader geographic area. A semi-structured telephone interview was conducted with an LF to gather qualitative data for the study. The primary reason for opting for a telephone interview was the geographical distance between the researcher and the LF, which rendered face-to-face interaction impractical. The telephone interview was audio-recorded with the participant's consent to ensure accuracy and facilitate data analysis (Glogowska et al., 2011).

The following are the advantages of a telephone interview:

- It can be less time-consuming and expensive than face-to-face interviews (Glogowska et al., 2011). This is especially important for formal schoolteachers, who may have limited time and resources for participating in research studies.
- It allows for greater flexibility in scheduling and can be conducted at a convenient time and place for the participant.
- It helps reduce social desirability bias, particularly when discussing sensitive topics (Glogowska et al., 2011). Participants may feel more comfortable discussing their knowledge and strategies for improvement over the phone rather than face-to-face with a researcher, which can lead to more honest and accurate responses.

Disadvantages of using a telephone interview. However, there are also limitations to using the telephone interview as a data collection method:

- Nonverbal communication cues, such as facial expressions and body language, are not visible during a telephone interview (Glogowska et al., 2011). This can make it more challenging for the interviewer to interpret the participant’s response accurately. Additionally, the telephone interview may not be suitable for participants with hearing or speech impairments.

Cachia and Millward (2011) state that during a telephone interview, interviewers should rely on clear follow-up questions rather than nonverbal cues between the researcher and the subject while collecting equalisation data. These authors believe that the telephone interview may be intentionally used to reduce power imbalances.

The literature contains studies highlighting specific tactics for conducting successful and in-depth telephone interviews. Glogowska et al. (2011) suggest that telephone interviews are a viable method for obtaining qualitative data, emphasising the importance of using advanced communication methods, such as letters or initial phone calls, to convey the study's goals and maintain rapport with participants.

3.8.2 Face-to-face interview

Face-to-face interviews are a standard method of data collection in equalisation research (Creswell, 2013). It refers to in-person interviews between an interviewer and an interviewee in which the interviewer asks questions and the interviewee responds verbally. This method of data collection has advantages and disadvantages.

- One advantage of in-person interviews is that they allow for more in-depth responses from the interviewee. The interviewer can ask follow-up questions and probe for additional details, leading to a richer understanding of the interviewee's perspective. Additionally, face-to-face interviews can help build rapport between the interviewer and interviewee, leading to more honest and open responses (Creswell, 2014).
- The face-to-face interview lets the interviewer observe nonverbal cues, including body language and facial expressions. These cues can provide additional information that may not be conveyed through verbal responses alone (Rubin & Rubin, 2012).

However, there are also disadvantages to face-to-face interviews:

- They can be time-consuming and costly, especially if the interviewer needs to travel to conduct the interview.
- They may not be feasible in certain situations, such as when the interviewee is in a different geographic area. In such cases, alternative methods of data collection, such as phone or video interviews, may be more suitable (Rubin & Rubin, 2012).

The selected school's principal was interviewed face-to-face to collect data and see how they deal with EMS teachers' PCK and how best they could support teachers in improving their PCK and enhancing learners' performance.

3.8.3 Focus group discussion

The focus group interview is guided by a semi-structured interview protocol. This protocol consists of open-ended questions designed to encourage discussions and exploration of the topic, thereby collecting data for the study (Creswell, 2014). The following chapters present the findings.

A focus group interview was conducted to collect data from three Grade 7 learners and three EMS teachers, gathering information for the study. The focus group was chosen for the study because it allows EMS teachers to share their experiences, challenges, and insights regarding the teaching and learning of EMS. The group dynamic allowed participants to build on each other's ideas, providing a rich and nuanced understanding of the topic. Böser (2015) highlighted that focus group interviews help explore people's attitudes, experiences, and opinions.

3.9 PERMISSION TO TAKE NOTES DURING THE INTERVIEW

According to the APA (2017), taking notes during an interview is acceptable, provided the interviewer obtains permission from the interviewee beforehand. However, it is important to be mindful of the interviewee's preferences and comfort level and to respect their privacy. During the interview, it would also be appropriate to ask the interviewee if there were any topics or questions they would prefer not to discuss. The interviewer should assure the participants that their responses will be kept confidential unless they have explicit permission to share them (Kvale & Brinkmann, 2009).

3.10 QUALITATIVE DATA ANALYSIS

Qualitative data analysis examines and interprets non-numerical data to identify patterns, themes, and insights. It involves systematically reviewing and organising data collected from interviews, observations, and other sources to develop a deep understanding of the studied phenomena (Neuendorf, 2016). Rather than starting with a pre-existing theory, building theories based on the data itself is the foundation of qualitative data analysis. This approach encompasses iterative data collection and analysis, with the researcher constantly refining their understanding of the topic (Creswell, 2014).

According to Cohen et al. (2011), qualitative data analysis involves several steps, including organising, summarising, explaining, and interpreting the data by identifying patterns and variations. Additionally, data analysis can be seen as transforming data to extract relevant information and facilitate drawing conclusions (Saunders et al., 2020). The interview transcripts related to this study were scrupulously scrutinised and analysed.

Saunders et al. (2020) suggest that the researcher read the transcripts and notes multiple times to become familiar with the data. Similarly, Creswell (2012) notes that researchers may read and re-read the data to understand it thoroughly. This strategy requires the researcher to oscillate between verbatim transcription of the data and the theoretical framework underpinning the research. Furthermore, the rationale for this approach is based on the belief that a comprehensive understanding of the data is crucial for drawing meaningful conclusions.

3.10.1 Qualitative coding

Qualitative coding is a research method used to analyse and translate collected data (Braun & Clarke, 2019). It involves systematically organising and labelling data to identify patterns, themes, and categories that emerge from the information (Creswell, 2014). The coding process entails assigning codes to data segments that present concepts or ideas relevant to the research question (Miles et al., 2013).

According to Saunders et al. (2020), qualitative coding aims to uncover and analyse the underlying meanings and relationships in the data. The process generates insights and theories that contribute to a deeper understanding of the phenomenon being studied. Typically, qualitative coding encompasses the following steps:

- **Familiarisation with the data**: The researcher reads and re-reads the data to gain a deeper understanding of the content and context of the data (Braun & Clarke, 2019).
- **Initial coding**: the researcher identifies and labels data segments with codes that capture the meaning of the text (Saunders et al., 2020).

- **Grouping codes into categories**: The researcher groups similar codes together to form categories representing broader data themes and patterns (Miles et al., 2013).
- **Refining and revising the coding scheme**: The researcher continually refines and revises as patterns emerge from the data collected (Creswell, 2014).
- **Coding validation**: The researcher checks the coding scheme for consistency and reliability using techniques such as intercoder agreement and member checking (Saunders et al., 2020).

3.10.2 Thematic analysis

Thematic analysis is a method used to identify, analyse, and report patterns or themes within the collected data, involving examining data in depth, coding, and identifying patterns of meaning across the dataset (Braun & Clarke, 2019). The method was adopted for this study as themes were created from the data gathered.

3.11 VERIFICATION OF THE QUALITATIVE STUDY

Saunders et al. (2020) suggest that for research to be considered good, it must meet specific criteria, including feasibility, relevance, objectivity, and consistency. However, the knowledge derived from rationalistic paradigms differs from naturalistic paradigms. Therefore, each paradigm requires specific rigour, trustworthiness, and qualitative rigour criteria. Creswell (2014) also emphasises the importance of focusing on and evaluating certain aspects of a research study when judging its quality. Saunders et al. (2020) assert that the reliability and validity of measurement instruments are crucial in determining how much can be learnt about the phenomenon being examined in qualitative research investigations. Holloway and Wheeler (2010) further argue that reliability and validity are particularly relevant in this context. Rigour is essential for meaningful research, as, without it, the results may lack utility and become mere rhetoric. Therefore, all research methodologies emphasise the dependability and validity of their findings. There are several strategies that researchers can use to verify the findings of qualitative studies:

- **Triangulation** involves the use of multiple sources of data or methods to corroborate the study's findings. It includes using multiple data collection

methods, such as interviews, observations, and document analysis, or using multiple researchers to analyse the data (Holloway & Wheeler, 2010).

- **Credibility** is an important aspect of qualitative research, referring to the extent to which the findings can be applied to another context or setting (Fouche et al., 2011). In quantitative research, it is associated with external validity. Still, instead of generalising to a population, transferability focuses on how findings can be transferred to other contexts. Accordingly, the researcher must involve diverse participants and collect data from multiple sites or settings (Fouche et al., 2011). Additionally, such an approach allows for a broader range of experiences and perspectives to be represented in the study and can increase the likelihood that the findings will be relevant and applicable to other contexts.
- **Transferability** is an important aspect of data driven research, referring to the extent to which the findings can be applied to another context or setting (Holloway & Wheeler (2010). It is related to external validity in quantitative research. Still, instead of generalising to a population, transferability focuses on the extent to which the findings can be transferred to other contexts. Accordingly, the researcher must involve diverse participants and collect data from multiple sites or settings (Fouche et al., 2011). Additionally, this allows for a broader range of experiences and perspectives to be represented in the study and can increase the likelihood that the findings will be relevant and applicable to other contexts.
- **Dependability** refers to the stability and consistency of the data in time and across different research (Creswell, 2014). It is similar to reliability in quantitative research, but instead of focusing on the consistency of measurements, dependability focuses on the consistency of both the data and the research process. One way to enhance dependability is to use a standardised data collection and analysis process and document any changes or modifications made to it promptly (Fouche et al., 2011).
- **Confirmability** refers to the degree to which the researcher's biases and perspective shape the findings (Creswell, 2014). Confirmability thus focuses on the extent to which the researcher's interpretations and biases influence the findings. Researchers can use flexibility to acknowledge and document their

own biases and assumptions, thereby validating their findings and minimising their influence (Wise, 2011).

3.12 ETHICAL CONSIDERATION

Ethical considerations in research are vital to guarantees studies are conducted integrity that respects the dignity, autonomy, and welfare of research participants. According to the Ethics Code (APA, 2017), researchers have a responsibility to obtain informed consent from participants, protect their confidentiality and privacy, minimise risk and harm, and ensure that the benefits of the study outweigh the potential harm. Additionally, researchers are required to disclose any conflicts of interest and obtain institutional approval for their research (APA, 2017). The Belmond Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research, 1979) provides guidelines for ethical research, highlighting the importance of respect for individuals, beneficence, and justice. By following this ethical guidance, researchers can ensure that their studies are conducted responsibly and respectfully, thereby promoting trust and accountability within the research community.

3.11.1 Ethical clearance certificate

The researcher obtained consent from the participants to proceed with the data collection, and they were informed that they could withdraw at the beginning of each interview session. Additionally, the researcher obtained permission from the DBE and the school principal to conduct the research.

3.11.2 Informed consent

According to Patton (2015), researchers need to inform participants about the nature of the information being collected, its intended purpose, what is expected of them in the study, and how it may affect them directly or indirectly. Creswell (2014) suggests that informed consent involves providing participants with ongoing data about the goals, risks, and benefits of the research study. Hennik et al. (2011) advise researchers to ensure that participants are fully informed about the research study before they agree to participate.

According to Hennik et al. (2011), research participants must be provided with sufficient and easily comprehensible data about the study, enabling them to make an informed decision about whether to participate. Cohen et al. (2011) state that informed consent involves several key factors, including the participants' ability to understand the information, their willingness to participate voluntarily, and the provision of complete and accurate information. Therefore, it is essential to obtain consent and cooperation from all individuals involved in the study. The study's potential participants were given the option to provide their consent by signing a consent form after being encouraged to do so. The information about the study could have been communicated verbally or in writing.

3.11.3 Voluntary participation

Babbie (2020) recommends that in research participants must voluntarily participate and the researchers may not coerce or pressure individuals to participate. Research participants must have the freedom to decide whether they want to take part in the study and understand that they can decline without facing any negative consequences (Hennik et al., 2011). It is important to remember that social research involves accessing people's personal lives, which can be intrusive (Saunders et al., 2020).

3.11.4 Free from harm

While qualitative research has been found to involve lower levels of physical harm, as noted by Hennik et al. (2011), it is important to acknowledge that participants may still experience stress, discomfort, anxiety, or negative emotions. Therefore, researchers should thoroughly inform potential participants about the potential impacts of the study to help them make an informed decision about whether to participate (De Vos et al., 2011). In this study, the researcher prioritised safety, preventing harm during data collection and ensuring the venue was safe for participants.

3.11.5 Confidentiality and privacy

Confidentiality and privacy are crucial ethical considerations in research involving human participants. Confidentiality refers to the protection of personal information provided by participants, which should be kept private and not shared with others

without the participants' consent. Privacy relates to protecting the participants' physical space and personal information against unauthorised access by others.

According to the APA (2017), researchers are responsible for ensuring that participants' personal information is kept confidential and secure. This includes storing data in a secure location, using pseudonyms or codes to identify participants, and limiting access to the data to authorised individuals only (APA, 2017).

Privacy can be ensured by providing participants with a comfortable and safe environment in which to participate in the study and ensuring that personal information is not shared with anyone without their explicit consent (National Institutes of Health, 2018). Additionally, the researcher should allow participants to ask questions and express concerns about any issues before participating in the study (Saunders et al., 2020).

3.12 CONCLUSION

This chapter covered the study research design and methods. It discussed the use of a qualitative research strategy and data collection methods to obtain and analyse research data while adhering to validity, reliability, and ethics. The next chapter focuses on the practical conduct of the interviews, the analysis of data, and the presentation of results and findings. The next chapter presents the findings and interpretations.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

The previous chapter provided an overview of the design and methods employed in this study. It included a face-to-face interview with the principal and a focus group interview with learners and teachers from a specific school in the Lejweleputswa district in the Free State. This chapter will focus on analysing the findings from telephone interviews and the results of focused group interviews conducted with EMS teachers and learners from the selected primary school. Detailed interpretation and explanations will also be provided.

4.2 PARTICIPANT PROFILES AND CODING

The researcher typically focused on providing a detailed profile of the study participants and explaining the coding process used to examine the data. To enable the confidentiality and anonymity of the participants, pseudonyms are used throughout this chapter, thereby protecting the true identities of the individuals. This chapter includes direct quotes from the participants to provide rich and authentic examples of their perspectives. The participant's characteristics and the coding process are components of the research methodology, ensuring the validity and reliability of the study findings (Creswell, 2013).

Table 4.1: Coding and participation profile

School	Codes	Number of participants
School 1 Face-to-face interview	Principal	01
School 1 Focused group interview	Leaners	06
School 1 Focused group interview	Teachers	03
School 1 Telephone interview	Subject Adviser	01

Focused group interviews were conducted with EMS teachers and learners, the face-to-face was conducted with the principal. Additionally, a telephone interview was conducted with the subject adviser. Notably, the findings of all the participants showed a similar response. According to Creswell (2013), the participants' thoughts allow the researcher to identify and organise themes. By analysing the data, the researcher could develop main themes and sub-themes.

4.2.1 Process of data analysis

To organise and give significance to the data gathered from the telephone, face-to-face, and focus groups, the researcher endeavours to identify overarching patterns relating to the various data categories (Cohen et al., 2011). According to Denzin and Lincoln (2010), researchers explore phenomena within their natural context to understand and interpret them based on the significance attributed to them by individuals, particularly when employing research methodology.

Cohen et al. (2011) emphasise the importance of immersing oneself in the study of collected data to develop a more profound familiarity with it. The researcher is advised to thoroughly review and compare the content of the transcripts and notes, ensuring accuracy by carefully reviewing and attentively comparing any recordings with their corresponding transcripts.

4.2.2 Themes and sub-themes

All gathered data, including a face-to-face interview with the principal, focus group interviews between EMS teachers and learners, and telephone interviews with the subject adviser, are reported separately per theme and sub-theme. Theme 1 consists of 4 subthemes, theme 2 consists of 1 subtheme, theme 3 consists of 3 subthemes, and theme 4 consists of 1 subtheme.

Table 4.2: Main themes and sub-themes

1. What are the challenges in improving PCK and CK of EMS teachers in primary schools	**THEME 1**	**RESOURCE CONSTRAINTS**
	Sub-theme 1.1	Lack of textbooks
	Sub-theme 1.2	Lack of internet infrastructure and mobility
	Sub-theme 1.3	Subject rotation
	Sub-theme 1.4	Overcrowding
2. How can we enhance these challenges?	**THEME 2**	Professional Development
	Sub-theme 2.1	Minimal training
3. What strategies can we implement to improve learners' results?	**THEME 3**	**STRATEGIES TO IMPROVE LEANERS' ACADEMIC PERFORMANCE**
	Sub-theme 3.1	Extra classes
	Sub-theme 3.2	Parental and community involvement
	Sub-theme 3.3	Intervention programmes
	THEME 4	**TEACHER SUPPORT FOR LEARNERS**
	Sub-theme 4.1	Identification of learners with barriers

4.3 FEEDBACK ON OPEN-ENDED QUESTIONNAIRES AND INTERVIEWS

All information obtained through telephone interviews with the LF and information drawn from responses to open-ended questionnaires by the teachers and learners is reported separately per theme and sub-theme. Some themes are combined when reporting to avoid repetition, and it is important to note that interpretations are made immediately after reporting on each theme and not in a new section or chapter.

Abbreviations are used when referring to learners, teachers, the principal, and the LF. For example, Learner 1 is abbreviated as T1, Teacher 2 is abbreviated as PL2, and the principal is abbreviated as H1, and so forth.

4.3.1 Theme 1: Resource constraints

4.3.1.1 Sub-theme 1.1. Lack of textbooks

Textbooks play a crucial role in primary education as they provide a structured and organised source of information for learners. They deliver curriculum content, reinforce key concepts, and facilitate learning across various subjects. Moreover, textbooks serve as a reference point for teachers, parents, and learners, helping to maintain consistency in education standards (Mkhasibe et al., 2020).

Participant T4 opines that having textbooks for each learner will enable them to do homework at home, and our parents can assist us.

Participants further claimed that effective teaching and learning through textbooks can lead to improved results in EMS.

PL1 says*, "The SGB and the principal should buy more textbooks for effective teaching and learning."*

On the other hand, some authors argue against reliance solely on textbooks in the classroom, emphasising the limitations of traditional textbooks' central instructions. Mkhasibe et al. (2020) suggested that textbooks, if used without supplementary materials or activities, may lead to passive learning and inhibit critical thinking skills among learners. Similarly, Hodges and Hicks (2018) advocate for a more inquiry-based approach to teaching, which focusses on learner-centred learning and hands-on experiences rather than relying solely on textbooks for content delivery. These authors emphasise the importance of incorporating various teaching strategies and resources to enhance learners' engagement and foster a more profound understanding in primary school classrooms.

Interpretation: Participants agreed that using a textbook is critical in the classroom as a source of information and reference for learners and parents. Parents can be actively involved or perceptive if learners have textbooks to assist children with homework at home. Parents who show interest in their children's education tend to lead to a child's increased motivation and better academic results. Schools and other

stakeholders, such as the SGB, must provide adequate resources for effective teaching and learning.

In light of these different perspectives, educators need to strike a balance in using textbooks in the classroom. A recent study by Hodges and Hicks (2018) highlight the importance of integrating textbooks as a part of a diverse set of instructional material, technology, and strategies. Textbooks emphasise the need for teachers to adapt and supplement textbook content with iterative activities, technology tools, and real-world examples to cater to diverse learning styles and foster critical thinking among primary school learners.

4.3.1.2 Sub-theme 1.2: Lack of Internet infrastructure and mobility

Mobile devices, such as tablets and smartphones, can be used as a facilitation tool in education and have frequently been suggested as a strategy to optimise human resource growth. The mobile phone is the most interconnected knowledge-sharing technology in developing regions due to its features, including minimal reliance on constant electricity, ease of upkeep, and cost-effectiveness. In many developing countries, including South Africa, education is often recognised as a critical national priority due to its potential for economic growth and poverty reduction. Mobile devices are increasingly considered valuable tools in education due to their versatility. The lack of technological development and resources can harm education (Anderson, 2010).

Participant T1 indicated that the school does not have a library.

Limited resources, both in terms of funding and equipment, can hamper efforts to improve the knowledge and skills of EMS teachers in primary schools. The researcher thought that providing adequate resources to equip teachers with the tools needed for effective teaching and learning might be difficult. Participants agreed that the school should build a library for learners and a media centre to help them access technology.

Participant T5 indicated that the school must provide learners with Wi-Fi to enable them to access the Internet at school and research topics that they find difficult.

PL1 asserted that access to the Internet is equal and effective for teachers in preparing lessons and activities for learners.

Principals indicated that the high cost of textbooks can be a significant barrier to education, especially for learners who rely on them for access to essential learning materials. This can hinder education outcomes.

Participant T4 indicated that mobile devices could assist learners because the school does not have a media centre.

A few educators have raised concerns about the disruptive nature of mobile devices in the classroom (Lenhart et al., 2010). In contrast, others advocate for their integration in education because of the instructional benefits they provide (Thomas & Brown, 2011). In Belgium, a study found that primary school teachers reacted favourably to tablet computers. Their enthusiasm was driven by intrinsic motivation, and their acceptance appeared to be associated with developing a positive attitude and social influence (Al-Furaih & Al-Awidi, 2020).

Interpretation: The majority of learners indicate that it is essential for the DBE and schools to implement the use of mobile devices to address the shortage of resources and to provide easy access to Wi-Fi or the Internet at schools, thereby improving their studies and education.

E-learning can mitigate the adverse effects of overcrowding and create a more conducive learning environment for learners and teachers. Fu and Hwang (2018) agreed that mobile devices, such as smartphones and tablets, are essential components of learning tools with remarkable capacity in classroom and outdoor learning settings. Researchers have referred to the learning methods that use mobile technology/devices to aid or encourage learning in mobile learning. This modern technology has rapidly evolved to provide e-learning through personal mobile devices without imposing limitations on time and location (UNESCO, 2012). Mobile learning has become a broad concept encompassing incorporating mobile computing devices into education (Fu & Hwang, 2018).

4.3.1.3 Sub-theme 1.3: Subject rotation

PL indicated, *"EMS is the subject introduced in the syllabus of Grade 7, which prepares learners for secondary schools."*

In some primary schools, when it comes to subject allocation, teachers rotate when teaching EMS, which makes it difficult for them to have confidence in teaching the subject due to a lack of CK. Furthermore, the lack of training for EMS teachers can be identified as one of the challenges in implementing the curriculum. Teachers who lack sufficient training skills will hinder the effectiveness of teaching and learning.

PL indicate that *"The SMT must not rotate subjects among teachers"*

Teachers can teach various subjects or topics, which can impact their PCK differently. By teaching different subjects, teachers are challenged to adapt their teaching strategies to different content areas.

PL1 asserts*, "It is challenging to maintain deep expertise in multiple subject areas, and constantly switching between the subjects may prevent teachers from developing a thorough understanding of each subject, thus leading to a shallower level of content knowledge overall."*

The teacher's response demonstrates that this lack of depth in CK can affect the quality of instruction and the depth of understanding conveyed to learners.

Subject rotation can negatively impact teachers' PCK by limiting the time and opportunities for teachers to develop specialised pedagogical strategies for each subject. Developing effective teaching methods tailored to specific content areas requires time and experience, which can be compromised when teachers frequently rotate between subjects.

PL1 indicate that, *"It is difficult for teachers to adapt their teaching approaches effectively to different subjects, potentially imparking learners' learning outcomes."*

Interpretation: All participants agreed that it is essential for schools and the Department of Education to consider these potential drawbacks and provide adequate support and resources to help teachers navigate the challenges associated with subject rotation. To minimise the negative effects of subject rotation, the schools can implement strategies such as providing teachers with professional development

opportunities to support their adaptation to new subjects and ensuring that learners have access to clear and consistent learning materials and resources (Harris & Jones, 2017).

4.3.1.4 Sub-theme 1.4: Overcrowding

Overcrowded classrooms could negatively affect learners and teachers (Abuhasanein et al., 2025).

Participants PL1 indicated, *"Teachers may struggle to provide individual attention to each learner due to the large class size."*

This can hinder personalised learning and learner-teacher interaction, causing learners to fall behind academically. Overcrowded classrooms also clearly contribute to behavioural problems among learners, who often lack sufficient space and resources.

Participant T4 highlighted that*, "As learners, we become restless and disrupted, and we cannot maintain discipline, which creates a poor learning environment."*

Participant PL1 said that overcrowding can negatively impact academic performance. Leaners may not receive the necessary support and guidance to excel academically, leading to low test scores, decreased motivation, and a lack of engagement with the material.

Moreover, overcrowded classrooms often mean limited access to educational resources, such as textbooks, technology, and other learning materials. This hinders learners' ability to engage with the curriculum fully and limits their overall learning experience.

Participants agreed that the SGB should build more classes and the DOE should provide moving classes to mitigate this challenge.

T1 said we struggle with homework at home because we must share textbooks.

LF1 indicated that teachers in overcrowded classrooms may feel overwhelmed and frustrated by their challenges in managing many learners. This can lead to decreased job satisfaction and ultimately impact the quality of education provided.

Interpretation: All participants agreed that ensuring that learners receive quality education and support for their academic and personal development is crucial. The school should implement strategies such as class size reduction. The Department of Education should hire more teachers and invest in educational infrastructure. A study by Abuhasanein et al. (2025) found that learners in overcrowded classrooms are likelier to experience decreased motivation and engagement, leading to poorer academic outcomes. Teachers in overcrowded classrooms often report feeling overwhelmed and stressed, with limited time and resources to devote to individual learners (OECD, 2019). A study by the National Education Association (2020) found that teachers in overcrowded classrooms are more likely to experience burnout and lower job satisfaction, resulting in higher teacher turnover rates. Participants agreed that the schools must implement strategies such as reducing class size, providing additional support staff, and creating flexible learning spaces. According to a report by the National Clearinghouse for Education Facilities (2019), reducing class size can lead to significant improvement, particularly for disadvantaged and minority learners.

4.3.2 Theme 2: Professional development and training

4.3.2.1 Sub-theme 2.1: Minimal training time and funding

P1 indicated that EMS is the subject that is only introduced in the Grade 7 syllabus, which prepares learners for secondary school.

All participants agreed that workshops are valuable tools for teacher development, as they offer a structured, developmental and interactive environment for continuous learning and growth. By participating in programmes offered by the Department of Education in different regions, teachers can expand their knowledge, refine their skills, stay abreast of current educational practices, and build a supportive professional network.

Offer regular professional development opportunities for EMS teachers to enhance their knowledge and skills within the educational environment. Participants agreed that workshops and online courses should focus on effective teaching strategies, curriculum development, and environmental issues. Encourage collaboration and networking among EMS teachers within and across schools in the district. Teachers

can exchange ideas, resources, and teaching strategies through networks, sharing platforms, and collaborative projects.

PI1 highlighted that the school's SMT should not rotate subjects among teachers.

Relevant literature explores and depicts teachers' professional growth in various forms. However, central to these investigations is the recognition that professional development involves teachers acquiring knowledge, honing their skills, and applying their expertise to enhance learners' progress. Teachers' professional learning process is intricate, demanding both cognitive and emotional engagement from educators individually.

Therefore, formal structures such as courses and workshops may have their uses when participating in curriculum development.

H1 assert that the DBE has implemented strategies to improve teachers' content knowledge and PCK, such as professional development workshops and professional learning communities (PLCS) that are conducted regularly to enhance teachers and offer opportunities to share best practices and highlights that some teachers do not attend such programmes.

PL1 indicated that the use of technology in training programmes can enhance teachers' teaching skills, and online courses, educational apps, and digital resources can provide interactive learning experiences for teachers.

Participant PL1 opines to study for postgraduate studies to deepen the effectiveness in teaching the subject.

Participants agreed that workshops play a crucial role in teachers' professional development, providing them with opportunities to enhance their knowledge and skills.

Participant T7 asserts that teachers need to participate fully in these structures so that it is easy for learners to understand the topics that they find difficult.

Moreover, LF1 highlighted this is what she had to say:

> *"Workshops often cover a range of topics, including curriculum updates, teaching strategies, assessment methods, and classroom management*

techniques, allowing teachers to broaden their understanding and enhance their instructional practices."

Interpretation: All participants agreed that workshops are valuable tools for teacher development, as they offer a structured, developmental and interactive environment for continuous learning and growth. By participating in these programmes offered by the Department of Education in different regions, teachers can expand their knowledge, refine their skills, stay abreast of current educational practices, and build a supportive professional network.

Offer regular professional development opportunities for EMS teachers to enhance their knowledge and skills within the educational environment. All participants agreed that workshops and online courses should focus on effective teaching strategies, curriculum development, and environmental issues. Encourage collaboration and networking among EMS teachers within and across schools in the district. Teachers can exchange ideas, resources, and teaching strategies through their networks, sharing platforms, and collaborative projects.

4.3.3 Theme 3: Strategies to improve learners' academic performance

4.3.3.1 Sub-theme 3.1 Extra classes

Most respondents favoured the concept of making additional effort to ensure that learners were thoroughly prepared academically. They suggested that offering extra classes was a primary intervention approach that could be employed to enhance academic achievement; hence, EMS is only introduced in the Grade 7 syllabus.

Learners expected that participating in supplementary classes would help them succeed in their studies and enable them to understand their school assignments and projects better (Santhi, 2011). Furthermore, learners indicated that it would be beneficial for them and their school results. Parents' and teachers' support for learners is important to encourage them to improve their poor performance in EMS.

Participants T4 responded, *"Some parents may not have money to pay for extra classes, so teachers must go beyond expectations to conduct extra classes."*

T1 indicated that, *"It would be beneficial for them if the school had a library, as it would make their work on group projects with geographic demarcation more challenging. Participants also indicated that they could benefit from having full support from their parents."*

H1 indicated, *"The school need more classes to mitigate overcrowding in the classrooms as well to provide enough teaching resources."*

Interpretation: All participants agreed that extra classes could significantly enhance learners' academic performance by providing additional support and guidance outside of regular classroom hours. Research has shown that additional classes can enhance learners' understanding and retention of complex concepts, resulting in improved academic outcomes (Santhi, 2011). For instance, a study conducted by the National Centre for Education Statistics (2018) found that the learners who attended extra classes showed a significant gain in EMS and reading achievement compared to their peers who did not attend extra classes. Assyifa (2023) asserts that extra classes can help to address specific learning gaps and misconceptions. Furthermore, a study published by Santhi (2011) found that learners who participated in extra classes reported a higher level of motivation and engagement compared to those who did not participate. To maximise the effectiveness of extra courses, teachers need to ensure that additional instructions are tailored to meet the specific needs of learners and that they reinforce and build upon the learning that takes place during a classroom hour (Assyifa, 2023).

4.3.3.2 Sub-theme 3.2: Parents and community involvement

education has been consistently linked to positive outcomes. Research has shown that when parents are actively involved in their child's education, learners tend to have higher academic achievements, better attendance, improved behaviour, and increased motivation to learn (Desforges & Abouchaar, 2003; Fan & Chan, 2001). Parents can support their children's learning by creating a home environment that fosters education, communicating regularly with teachers, attending school meetings, assisting with homework, and showing genuine interest in their children's academic progress. Participant T6 indicated that it is important for parents to attend school meetings. Parents should also contribute by actively participating in school activities.

PL1 assert that, "Some parents when they are invited to school to address child's problems with regards to performance they don't come to school, the school usually held phase or grade meetings, some don't come."

Participant T1 responded that, *"My parents are working outside the province, and it is difficult to get help from my grandmother."*

PL1 said, "It is important for parents to give support and have a good relationship with teachers for the betterment of their learning progress."

Interpretation: It is evident that family engagement plays a crucial role in the educational process of learners, particularly in underprivileged areas. Leaners are exposed to curricula that enhance their critical thinking abilities. Moreover, without fair education support from parents, learners are less likely to achieve academic success. Ahmed et al. (2022) assert that the lack of adequate support plays a significant role in the educational struggles of children from impoverished backgrounds.

4.3.3.3 Sub-theme 3.3: After-school programmes

The participants supported the idea of 'going the extra mile' to ensure that all learners were well-prepared academically and indicated that after-school programs were the primary intervention strategy that could be implemented to improve learner academic performance.

T2 indicated that, "attending after-school programs would assist them in improving in their schoolwork."

After-school programs offer a variety of benefits to learners. Research has shown that participation in after-school programs can lead to improved academic performance (Durlak et al., 2010). These programmes offer additional learning opportunities beyond the regular school day, enabling learners to receive extra academic support and participate in enrichment activities. According to a study by Vandell et al. (2004), learners who participate in after-school programmes are more likely to show gains in academic achievements compared to their peers who do not participate.

These programs can help narrow the achievement gap and provide equitable learning opportunities for all learners. According to the Wallace Foundation (2011), high-quality

after-school programmes can help address disparities in academic outcomes by providing additional resources and support to learners who may be at risk of falling behind.

Participant T5 maintained that, *"Teachers can only excel if they get assistance from the experts."*

Participant T3 said, *"My parents cannot afford to pay for after-school programs; teachers need to work the extra mile during school hours."*

PL1 assert that, "These programs can also help foster a love for learning, promote creativity, and encourage learners' engagement in their education."

Mahoney et al. (2009) highlighted that participation in after-school programs can lead to improved leaners behaviour, increased self-confidence and enhanced social skills.

Interpretation: All participants agreed that it is essential for parents to support learners' participation in after-school programmes by providing academic support, fostering social and emotional development, and offering equitable learning opportunities. These programs can help improve learners' academic performance and overall well-being. Furthermore, collaborating with schools, communities, and policymakers can help invest in and expand after-school programs, ensuring that all learners have access to the resources they need to thrive. Teachers are required to be creative and use a variety of teaching methods to make sure that all learners are covered and on par. Furthermore, this is a clear indication that a well-prepared teacher will achieve satisfactory academic performance in the respective subjects they teach.

4.3.4 Theme 4: Teacher support to learners

4.3.4.1 Subtheme 4.1 Identification of learners with learning barriers

Determining the necessary support for schools, teachers, learners, and organising support services within the framework of the Screening, Identification, Assessment, and Support Policy (SIAS) falls under the responsibility of the school-based support team (SBST), also known as the institutional level support team. These teams play a key role in carrying out these functions. Each public school is required to establish a SBST. A crucial aspect of this process is ensuring that teachers possess the necessary skills to identify and support learners who encounter learning barriers. This includes understanding the diverse needs and backgrounds of learners. The district-based support team is responsible for providing supplemental support and training to schools.

T6 contributed to the case of learners who face academic challenges by stating, *"Parents must acknowledge when their children need support."*

T1 agreed, stating that it is difficult to identify learners with additional needs.

All participants agree that it is essential for teachers to identify learners with learning barriers, as this promotes equity in education. This ensures that all learners have access to the support they need to succeed, regardless of their background or abilities. The SBST should be functional, and teachers who show interest in learners will continue to identify learners by addressing learning. By doing so, educators can help learners achieve better learning outcomes and reach their full academic and personal potential. Early intervention can help in providing timely interventions and support to address their specific needs.

Interpretation: Schools require committees, such as the school-based support team, to help identify learners who are at risk early on and those who require extra assistance to ensure they manage their academic workload effectively and receive proper support. Participants acknowledged that learners rely on the support of teachers since they are in their presence most of the time. Teachers are expected to provide pastoral care and act as surrogate parents, which essentially means that teachers need to serve as parents to learners in the absence of their biological parents.

4.4 CONCLUSION

In this chapter, an examination was conducted using various methods for collecting data, including focused-group interviews, face-to-face interviews, and telephone interviews, to interpret how participants view the impact of PCK on learners' academic performance. A chapter also sheds light on teachers' experiences when working with learners from different learning methods. Notably, there was a significant level of commitment and enthusiasm from teachers to assist these learners, which was evident through the research.

In the next chapter, the researcher synthesised and explained the findings derived from face-to-face interviews, telephone interview, and focus group interviews. Additionally, the researcher plans to offer recommendations based on these empirical findings while also considering the theoretical insight gathered from the literature review.

CHAPTER 5

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATION

5.1 INTRODUCTION

The researcher typically focuses on presenting the research findings, analysing the collected data, and discussing the results in relation to the research questions and objectives. This chapter serves as a bridge between the research methodology outlined in the previous chapters and the presentations and interpretations of the qualitative data. It sets the scene for the reader by summarising the research design, explaining the data collection methods used, and highlighting the significance of the qualitative data.

In this chapter, the researcher delves into the rich tapestry of qualitative data gathered through in-depth interviews and the methods employed in this study. The aim is to explore the nuances embedded within the participants' experiences by immersing themselves in the qualitative data; the researcher seeks to uncover insights that go beyond mere numbers and statistics, offering an understanding of the phenomenon under investigation. This chapter is not just about presenting raw data. It is about weaving a coherent narrative that brings the voices and stories of the participants to the forefront, shedding light on their lived experiences and the intricate dynamics at play within the research context.

5.2 OVERVIEW OF THE STUDY

Using a qualitative method, the researcher concentrated on a single school. The population of the current study was purposively sampled. The researcher targeted the principal, the subject advisor, six learners and three teachers as participants in the study.

The researcher initiated the research process after obtaining permission from the DBE in the Free State to conduct research and collect data. Additionally, the researcher notified the principal, teachers, parents or legal guardians, and learners that they had completed the research and consent forms. The researcher conducted a face-to-face

interview with the principal and a telephonic interview with the subject director using OPPO. Themes formulated from the learners' responses are discussed.

5.3 DISCUSSION AND CONCLUSION

The researcher's analysis of existing literature contributed to the generation of the study's results. It emphasised how parents play an authoritative and proactive role in their children's education by actively acquiring essential skills to assist schools and teachers in enhancing learners' academic performance. The literature elaborated on the main themes identified below:

This section provides an analysis of the findings, addresses the research questions and objectives of the study, and presents the results clearly and concisely.

- What are the challenges in enhancing the PCK of EMS teachers in primary schools?
- How can we enhance these challenges?
- What strategies can we implement to improve learners' results?

5.3.1 SUMMARY OF FINDINGS AND IMPLICATIONS OF INTERVIEW DATA

This section presents the findings that directly address the three primary questions, providing insightful answers and shedding light on the research topic.

- What are the challenges in enhancing the PCK of EMS teachers in primary schools?
- How can we enhance these challenges?
- What strategies are to implement to improve learners' results?

Table 5.1: Themes that are categorised from the participant's responses

Theme number	Themes
Theme 1	Resource constraints
Theme 2	Professional development and training
Theme 3	Strategies to improve leaners academic performance
Theme 4	Teachers support to leaners

Subsection 5.3.1.1 presents the findings associated with Theme 1, which addresses the research question: What are the challenges in improving the PCK of EMS teachers in primary schools?

5.3.1.1 Theme 1: Resource constraints

Several key findings were highlighted regarding the challenges faced within the educational systems. The primary issues identified include a lack of textbooks, limited internet access for learners, overcrowded classrooms, and subject rotation practices. These factors collectively contribute to the ineffectiveness of the learning environment and hinder learners' educational experiences.

The absence of textbooks poses a significant barrier to learners' ability to access essential learning materials, thereby impeding their academic progress. Similarly, the limited availability of internet access restricts learners from leveraging online resources and digital tools for learning and research purposes (cf. Theme 1T4, subtheme 1.1). It was highlighted in the study that overcrowded classrooms exacerbate the challenge faced by both teachers and learners, as large class sizes can hinder individual attention, engagement, and effective instruction. Furthermore, the practice of subject rotation may disrupt the continuity of learning and mastering the subject, leading to gaps in learners' knowledge and understanding (cf. Theme 1, PL1 subtheme 1.1).

Subsection 5.3.1.2 presents the findings associated with Theme 2, which addresses the question: How can we enhance these challenges?

5.3.1.2 Theme 2: Professional development

In the exploration of professional development within the educational context, the data collected from the study has emerged, highlighting significant challenges and areas for improvement. Teachers face limited access to workshops and development opportunities, and they require increased motivation to enhance their studies and skills (see Theme 2, PL1, subtheme 2.1). The lack of adequate training time for teachers hinders their ability to acquire the new knowledge, skills, and teaching strategies essential for effective learning.

Additionally, the scarcity of funding for equipment by the DBE, stakeholders, and the school SMT affects not only educators but also the teacher's ability to deliver quality education and limits learners' access to necessary resources and tools. The data collected indicate that these platforms, such as workshops, offer teachers an opportunity to enhance PCK, growth, and innovation in the classroom (cf. Theme 2, PL1, subtheme 2.1). These platforms are crucial for fostering collaboration and sharing best practices and methodologies in education. It is noted that there is a need for increased motivation among teachers to pursue further studies and enhance their qualifications, thereby increasing their PCK, and these initiatives can lead to improved overall educational quality. By NOT addressing this challenge, teachers' PCK will remain stagnant, which would impact growth and development of teaching methods that remain relevant.

Subsection 5.3.1.3 presents the findings associated with Theme 3, which addresses the question: What are strategies to improve learners' results?

5.3.1.3 Theme 3: Teacher support to learners

A study has highlighted that early identification and support for learners with barriers is a key role for their academic success. Teachers play an important role in recognising and addressing a challenge for learners with learning barriers at an early stage to prevent them from escalating. Parents who are actively involved in their children's education can positively influence their learning outcomes. (cf. Theme 3, T1, subtheme 3.3).

Overcrowded classrooms affect both teachers and learners, as the high number of learners makes it difficult to identify at-risk learners. Overcrowding challenges the teachers' ability to control and impart their current PCK, which would negatively impact on the learners who require additional support. The SBST is functional, and teachers and parents should help identify learners who are at risk or have trouble adapting. The SBST is an initiative coordinated by the Department of Education that relates to inclusive education.

Subsection 5.3.1.4 presents the findings associated with Theme 4, which addresses the question: What intervention should be implemented to improve learners' academic performance?

5.3.1.4 Theme 4: Interventions to improve learners' academic performance

Initiatives designed to help and empower learners to succeed in their studies, although essential, are insufficient to guarantee academic success and school support. Schools should implement plans to improve the results of EMS in grade 7 (cf. Theme 4, T6, Subtheme 4.1). These programmes are crucial for assisting learners who are at risk due to a lack of necessary support. When implemented effectively, they can elevate low academic results to high levels.

After-school programmes offer a variety of benefits to learners. Research has shown that participation in after-school programmes can lead to improved academic performance (Durlak et al., 2010). These programmes offer additional learning opportunities beyond the regular school day, enabling learners to receive academic support and participate in enrichment activities. According to a study by Vandell et al. (2004), learners who participate in after-school programmes are more likely to show gains in academic achievements compared to their peers who do not participate (cf. Theme 2, T4, subtheme 2.1).

5.4 RECOMMENDATIONS

5.4.1 Professional development and training of teachers

Most teachers and learners face challenges that impact effective teaching and learning. Minimal training development of teachers is important for the academic performance of the school. Findings from the research indicate that most teachers are allocated inadequate time for workshops that resume during school hours, which hinders them from acquiring sufficient skills and knowledge during their teaching time. A lack of textbooks is hindering learners, parents, and teachers, as it is a source of information and reference to assist learners with content they find difficult to understand. Lee and Song (2017) assert that effective professional development programmes also provide teachers with opportunities to reflect on their practices, receive feedback, and collaborate with colleagues to share best practices.

5.4.2 Teachers and parents' support

The data collected from the current study indicated that teachers' and parents' support for learners is important, as well as the way children experience challenges that enhance learning at school. All participants agreed that parents need to be actively involved in school activities, which motivates children to work hard on their schoolwork. Parents and educators should collaborate and have an equal relationship. Thus, direct parental involvement in their children's education contributed to their achievement and development. Parental involvement is one of the most significant factors that foster success in a child's life (Desforges & Abouchaar, 2003). It is crucial that all schools set a goal in their school improvement plan for improving the learning experience for learners. Parents must create a conducive environment at home to ensure that their children engage in schoolwork and studying. Parents must provide support by participating in school meetings and ensuring their children attend school consistently. Unfortunately, some parents lack interest in their children's academic progress and do not engage in school-related events. The researcher commended parents who regularly review their children's school material at home and actively participate in school activities by visiting the school and engaging with the teachers.

Support for teachers is the key role for implementing development in teaching and learning; hence, researchers recommend that teachers should (Shulman, 1986):

- Teachers need to effectively use of teaching and learning time is essential.
- The time spent with leaners learners should not be wasted, and educators need to be punctual for classes.
- Teachers need to enhance their approach by consistently monitoring leaners' work and progress.

5.4.3 Offer enough resources for teaching and learning

The DOE needs to allocate more time and resources for teachers' training, provide adequate funding for equipment, expand workshop opportunities, and incentivise educators to pursue further studies. Vescio et al. (2008) assert that resources can help maintain consistency in educational standards and have an impact on learners' performance. Teachers complain about the lack of infrastructure for learners to complete projects and suggest that it is essential for schools to have a school library

as well as internet access to enable learners to research for school projects, which can enhance their performance.

5.4.4 Restructuring the curriculum

The findings suggest that there should be a review of policies to introduce EMS from Grade 4 to Grade 7. To master EMS, it should be introduced early to close the gaps. The literature in this study reports that in South Africa, CAPS (2020) emphasises the importance of introducing EMS in primary schools to provide learners with a solid foundation for future studies.

5.4.5 Monitor regular visits by department officials to schools

Teachers suggested that the regular visits by departmental officials to schools are crucial for improving the PCK of EMS teachers and enhancing learners academic performance. These visits provide an opportunity for officials to monitor the implementation of the EMS curriculum, identify areas of strength and weakness, and offer targeted support to teachers (Department of Basic Education, 2019). By monitoring the teaching and learning of EMS, department officials can ensure that teachers are equipped with the necessary knowledge, skills, and resources to deliver the curriculum effectively (Shulman, 1986).

5.5 FUTURE RESEARCH

This study aimed to explore teachers' perspectives on the obstacles they encounter when implementing strategies to enhance their PCK. The findings of this study highlight several avenues for future research, including the following key areas:

- How can providing enough resources and teacher training improve teaching and learning?
- How to examine the impact of parents' support to learners?

5.6 LIMITATIONS OF THE STUDY

The limitations of the current study include the following:

The study focused solely on the views and perceptions of the principal, two teachers, an LF, and learners, as they were the individuals directly affected by the PCK issues

that impacted learners' academic performance and teachers' teaching skills. Furthermore, focus was given to the impact of minimal training for teachers and the lack of resources, which leaves teachers without the confidence to teach the subject due to inadequate training provided to them.

5.7 SUMMARY OF THE CHAPTER

This study aimed to explore teachers' PCK for teaching EMS and identify the challenges they face in teaching EMS and enhancing their PCK. The findings, presented in Chapter 5, are based on insights from the literature review and data collected through face-to-face, telephone, and focused group interviews. The study concluded with recommendations, acknowledged limitations, and proposed avenues for future research.

REFERENCES

Abramson, E. L., Naifeh, M. M., Stevenson, M. D., & Li, S. T. T. (2019). Scholarly collaboration, mentorship, and friendship: A new model for success in academic medicine. *Academic Pediatrics,* 19(8), 860-864.

Abuhasanein, Y., Rejeb, A., & Jemai, K. (2025). Challenges to learning mathematical concepts among sixth-grade students in primary education: A teachers' perspective. *International Electronic Journal of Mathematics Education*, *20*(2), em0818.

Addae, D., & Quan-Baffour, K. P. (2015). The place of mixed methods research in the field of adult education: Design options, prospects and challenges. *International Journal of Education and Research*, *3*(7), 151-162.

Agumba, H. O., & Dasoo, N. (2024). Economic and Management Sciences Teachers' Experiences of Teaching Financial Literacy: Implications for Teacher Training. *International Journal of Learning, Teaching and Educational Research*, *23*(8), 532-555.

Ahmed, Q. W., Rönkä, A., & Perälä-Littunen, S. (2022). Rural children's perceptions of parental involvement in their education in Pakistan. *Education Sciences,* 12(5), 323.

Al-Furaih, S. A., & Al-Awidi, H. M. (2020). Teachers' change readiness for the adoption of smartphone technology: Personal concerns and technological competency. *Technology, Knowledge and Learning,* 25, 409-432.. https://doi.org/10.1007/s10758-018-9396-6.

American Psychological Association [APA] (2017). *Practice guidelines for the Psychiatric Evaluation of Adults* (Bed). American Psychiatric Association Publisher United States of America.

Anderson, J. (2010). *ICT Transforming Education: A Regional Guide*. UNESCO.

Antwi, S. K., & Hamza, K. (2015). Qualitative and quantitative research paradigms in business research: A philosophical reflection. *European journal of business and management*, *7*(3), 217-225.

Assyifa, N. N. (2023). The extra class activity in improving student's vocabulary. *Linguamedia Journal*, *4*(2).

Australian Curriculum, Assessment and Reporting Authority. (2014). Australian Curriculum Science.

Babbie, E. R. (2020). *The practice of social research*. Belmont, Calif.: Wadsworth Cengage.

Badat, S., & Sayed, Y. (2014). Post-1994 South African education: The challenge of social justice. *The ANNALS of the American Academy of Political and Social Science*, 652(1), 127-148.

Badshah, A., Ghani, A., Daud, A., Jalal, A., Bilal, M., & Crowcroft, J. (2023). Towards smart education through internet of things: A survey. *ACM Computing Surveys*, 56(2), 1-33.

Banihani, R. T. (2023). *Influence of the EMS Program on Pedagogical Content Knowledge (PCK) of Elementary Mathematics Teachers in Southwest School Districts in New Mexico* (Doctoral dissertation), New Mexico State University.

Borko, H., Jacobs, J., & Koellner, K. (2010). Mathematics professional development: improving teaching using the problem-solving cycle and leadership preparation models. *Journal of Mathematics Teachers Education*, 459-476.

Böser, U. (2015). Interviews and focus groups. In *Researching translation and interpreting (pp. 236-246).* Routledge.

Bouchrika, I. (2020). Types of research design: Perspective and methodological approaches. [online] Retrieved April, 2, 2024.

Bell, E., Harley, B., & Bryman, A. (2022). *Business research methods*. Oxford university press.

Braun, V., & Clarke, V. (2019). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 77-101.

Cachia, M., & Millward, L. (2011). The telephone medium and semi-structured interviews: a complementary fit. *Qualitative Research in Organizations and Management: An International Journal*, *6*(3), 265-277.

Chen, M., Chen, Y., & Liu, Y. (2020). Effects of a Professional Development Program on the Pedagogical Content Knowledge and Teaching Effectiveness of Physical Education Teachers. *Research Quarterly for Exercise and sports*, 91(2), 208-218.

Cicek, V., & Hidayet, T. (2013). Effective use of lesson plans to enhance education. *International Journal of Economy, Management and Social Sciences*, 2(6), 334-341.

Clarke, S. (2012). The effect of challenge and hindrance stressors on safety behavior and safety outcomes: a meta-analysis. *Journal of occupational health psychology*, *17*(4), 387.

Coetzee, C. (2018). *The development of pre-service teachers' pedagogical content knowledge in electromagnetism*. University of Pretoria (South Africa).

Cohen, L., Manion, L., & Morrison, K. (2011). *Research Methods in Education* (7 ed.). New York: Routledge.

Collett, K., & Green, L. (2017). “Walking the talk”: The influence of an introduction to cognitive education on school leaders. *South African Journal of Education*, 37(3).

Creswell, J. W. (2012). *Educational Research: Planning, Conducting and Evaluating Quantitative Research*. New York: Pearson.

Creswell, J. W. (2013). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches.*

Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Thousand Oaks, CA: Sage.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Utilizing qualitative, quantitative, and mixed-methods approaches*. Sage publications.

Creswell, J. W. (2021). *A concise introduction to mixed methods research*. Sage publications.

Darling-Hammond, L., & Bransford, J. (Eds). (2005). *Preparing teachers for a changing world: What teachers should lean and able to do.* Jossey-Bass.

Delport, R., Strydom, H., Theron, L., & Geyer, S. (2011). Voices of HIV & AIDS-affected educators: how they are psychosocially affected and how REds enabled their resilience. *AIDS care*, *23*(1), 121-126.

Denzin, N. K., & Lincoln, Y. S. (2011). *The Sage handbook of qualitative research* (4th ed.). Thousand Oaks, CA: Sage.

Desforges, C., & Abouchaar, A. (2003). The impact of parental involvement, parental support and family education on pupil achievement and adjustment: A literature review. *DfES Research Report 433*. London: DfES.

Desimone, L. M., & Garet, M. S. (2015). *Best practices in teacher's professional development in the United States.*

De Vos, A., Strydom, H., Fouche, C., & Delport, C. (2011). *Research at Grass Roots: For Social Sciences and Human Services Professions.* Van Schaik Publishers, Pretoria.

Dlamini, S. N. (2020). *Grade 9 EMS teachers' constructs of Accounting and their pedagogical reasoning* (Doctoral dissertation). WITS University.

Dreyer, J. S., & Nel, N. (2018). the challenges of teaching economic and management sciences in foundation phase. *South African Journal of Education*, 38(4), 51-510.

Durlak, J. A., Weissberg, R. P., Dymnickicki., A. B., Tarlor, R. D., & Schellinge, K. B (2010). The impact of enhancing students social and emotional learning: A meta-analysis of school based universal interventions. *Child Development, 82*(1) 405-432.

Enago Academy (2024, May 13). Seven steps in the research process. [online] Available from https://www.enago.com/academy/impactful-research-process/

Enright, E. (2018). Coaches as subject matter experts: Enhancing pre-service physical education teacher content knowledge. *Journal of Teaching Physical Education, 37*(3), 284-291.

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American journal of theoretical and applied statistics*, *5*(1), 1-4.

Fan, X., & Chan, M. (2001). Parental Involvement and Students 'Academic Achievement: A Meta-Analysis. *Educational Psychology Review*, 13(1),1-22.

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.

Fink, A. (2019). *Conducting research literature reviews: From the internet to paper.* Sage publications.

Fred, H., Meeuwen Pierre, V., Ellen, R., & Marjan, V. (2020). How to enhance teachers' professional learning by stimulating the development of professional learning communities: operationalising a comprehensive PLC concept for assessing its development in everyday educational practice. *Professional Development in Education*, 46(5), 751-769.

Fu, Q.-K., & Hwang, G.-J. (2018). Trends in mobile technology-supported collaborative learning: A systematic review of journal publications from 2007 to 2016. *Computers & Education, 119,* 129–143.

Gale, J., Alemdar, M., Cappelli, C., & Morris, D. (2021, September). A mixed methods study of self-efficacy, the sources of self-efficacy, and teaching experience. In *Frontiers in Education (Vol. 6, p. 750599)*. Frontiers Media SA.

Gess-Newsome, J., Taylor, J. A., Carlson, J., Gardner, A. L., Wilson, C. D., & Stuhlsatz, M. A. (2019). Teacher pedagogical content knowledge, practice, and

student achievement. *International Journal of Science Education*, *41*(7), 944-963.

Glogowska, M., Young, P., & Lockyer, L. (2011). Propriety, process, and purpose: Considerations of the use of the telephone interview method in an educational research study. *Higher Education*, *62*(1), 17-26.

Goddard, Y, L., Goddard, R. D., E. S., & Miller, R. (2007). A Theoretical and Empirical Investigation of Teacher Collaboration for School Improvement and Student Achievement in Public Elementary Schools. *Teachers College Record, 109*(4), 877-896.

Grossman, P., Hammerness, K., & McDonald, M. (2009). Redefining Teaching, reimagining teacher education. *Teachers College Record, 111*(8), 1930-1960.

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

Gupta, S. (2017). Higher education management, policies and strategies. *Journal of Business Management & Quality Assurance,* 1(1), 5-11.

Häkkinen, A. Järvelä, S. Mäkitalo-Siegl, K. Ahonen, A. Näykki, P., & Valtonen, T. (2017). Preparing teacher-students for twenty-first-century learning practices (PREP 21): A framework for enhancing collaborative problem-solving and strategic learning skills. *Teachers and Teaching*, *23*(1), 25-41, 10.1080/13540602.2016.1203772

Hamdar, B. C., Sawama, A., & Hamdar, Z. (2017). The economics of education in Lebanon: implications for a brighter future for Lebanese students. *Economics*, *3*(2).

Hammond, M., & Wellington, J. (2013). *Research Methods: The Key Concepts.* Abingdon: Routledge. https://doi.org/10.4324/9780203097625.

Harris, A., & Jones, M. (2017). Leading professional learning: putting teachers at the centre. *School Leadership & Management,* 37(4), 331-333.

Hedman, E., & Valo, M. (2015). Communication challenges facing management. Teams. *Leadership and Organization Development Journal, 36*(8), 1012-1024. https://doi.org/10.1108/LODJ-04-2014-0074.

Hennessy, S., Ruthven, K., & Brindley, S. (2005). Teacher perspectives on integrating ICT into subject teaching: Commitment, constraints, caution, and change. *Journal of Curriculum Studies, 37*(2), 155-192.

Hennik, M., Hutter, I., & Bailey, A. (2011). *Qualitative Research Methods*. Thousand Oaks: SAGE Publications.

Hill, H. C., Rowan, B., & Ball, D. L. (2005). Effects of teachers' mathematical knowledge for teaching on student achievement. *American Educational Research Journal*, 42(2), 371-406.

Hiebert, J., & Morris, A.K. (2012). Teaching, rather than teachers, as a path towards improving classroom instruction. *Journal of Teacher Education, 63*(2),92-102.

Hodges, T. E., & Hicks, G. R. (2018). The impact of professional development on teacher confidence and effectiveness in teaching economics. *Journal of Economic Education, 49*(4), 283-397.

Holloway, I., & Wheeler, S. (2010). *Qualitative Research in Nursing and Health Care,* 3rd Ed. Wiley-Blackwell, Chichester.

Hord, S. M. (2009). Professional learning communities: what are they and why are they important? *Issues about change*, (2), 1-9.

Igwenagu, C. (2016). *Fundamentals of research methodology and data collection.*

Imran, M., & Almusharraf, N. (2024). Google Gemini as a next generation AI educational tool: a review of emerging educational technology. *Smart Learning Environments,* 11(1), 22.

Johnson, B., & Down, B. (2017). Collaborative Knowledge Building in Teacher Professional Learning Communities. *Journal of Educational Change, 18*(1), 1-22.

Jones, S. R., & Abes, E. S. (2013). *Identity development of college students: Advancing frameworks for multiple dimensions of identity.* John Wiley & Sons.

Keating, J. (2011). The Malaysian qualifications framework. An institutional response to intrinsic weaknesses. *Journal of Education and Work,* 24(3-4), 393-407.

Kennedy, A. (2014). Understanding continuing professional development: The need for theory to impact on policy and practice. *Professional Development in Education, 40*(5), 688-697. doi10.1080/19415257.2014.955122

Kennedy, A. (2016). The Relevance of Subject Knowledge in Teacher Education. *Journal of Education for Teaching, 42*(3), 281-293.

Kivunja, C., & Kuyini, A. B. (2017). Understanding and applying research paradigms in educational contexts. *International Journal of higher education*, *6*(5), 26-41.

Koehler, M. J., & Mishara, P. (2008). Introducing TPCK, in *Handbook of Technological Pedagogical Content Knowledge (TPCK) for Educators (pp 3-29).*

Kolawole, O., & Elmore C. B. (2007). Business education as a tool for poverty reduction in Nigeria; Association of business educators of Nigeria. *ABEN book of reading*, 1(5).

Kothari, C. R. (2004) *Research Methodology: Methods and Techniques.* New Age International Limited, Publishers.

Kvale, S., & Brinkman, S. (2009). Interviews: Learning the craft of qualitative research interviewing.

Learning First Alliance. (2016). The teacher collaboration survey: What do teachers say about their collaboration and planning time.

Lee, H, S, & Luft, J. A. (2008). Experienced Secondary Science teacher presentation of pedagogical content knowledge. *International Journal of Science Education*, *30*(11), 1453-1475.

Lee, J. C., & Song, S. H. (2017). Effects of collaboration Knowledge building on teacher's professional growth. *Teaching and Teachers Education, 67*, 357-367.

Lenhart, A., Ling, R., Campbell, S., & Purcell, K. (2010). Teens and mobile phones. Washington, DC: *Pew Internet & American Life Project*, 20.

Laubscher, A. O. (2021). *A Phenomenological investigation into selected grade seven teachers' integration of democratic values into their EMS lessons.*

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

Mahoney, J. L., Vandell, D. L., Simpkins, S., & Zarrett, N. (2009). Adolescent out-of-school activities. *Handbook of adolescent psychology*, *2*, 228-269.

Maree, K. (Ed) (2016). *First steps in Research,* 2nd edition, Van Schaik, Hatfield, Pretoria.

Ma'rufi, Budayasa, I. K., & Juniati, D. (2018). Pedagogical content knowledge: teacher's knowledge of students in learning mathematics on the limit of function subject. *Journal of Physics: Conference Series, 954*(1), 012002. https://doi.org/10.1088/1742-6596/954/1/012002

McCombes, S., & George, T. (2023). How to write a research proposal - examples & templates. *Scribbr.*

Means, B., & Neisler, J. (2021). Teaching and learning in the time of COVID: The student perspective. *Online Learning*, 25(1).

Mestry, R. (2019). Resource management. *Principles of educational leadership and management*, 149-164.

Miles, M. B., Huberman, A. M., & Saldana, J. (2013). *Qualitative Data Analysis: A Methods Sourcebook.* SAGE Publications

Mishra, P., & Koecher, M. J. (2006). Technological pedagogical content knowledge: A framework for teachers' knowledge. *Teachers College Record*, 108(6), 1017-1054.

Mkhasibe, R. G., Khumatake, M. R., Olaniran, S. O., & Maphalala, M. C. (2020). Availability of and access to learning and teaching support materials in teaching the accounting component of economic and management sciences. *PONTE International Journal of Science and Research*, 76(12).

Modise, A. M. (2016). *Pedagogical content knowledge challenges of accounting teachers*.

Mofokeng, L. A. (2023). *Exploring teachers' perceptions and practices of education for sustainable development in life sciences classrooms.* Central University of the Free State.

Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subjects. *Journal of economic development, environment and people*, *7*(1), 23-48.

Moh'd, S. S., Uwamahoro, J., Joachim, N., & Orodho, J. A. (2021). Assessing the Level of Secondary Mathematics Teachers' Pedagogical Content Knowledge. *Eurasia Journal of Mathematics, Science and Technology Education, 17*(6).

Morgan, D. L. (1997). *Focus groups as qualitative research* (Vol. 16). Sage.

Msimanga, M. R. (2017). *Teach and assess: A strategy for effective teaching and learning in Economic and Management Sciences* (Doctoral dissertation), University of the Free State).

Murthy, S. N., & Brojanna, U. (2009). *Business Research Methods* (2nd ed.).New Delhi, India.

National Centre of Education Statistics. (2019). Teacher Uses of Educational Technology in U.S. Public Schools. *NCES*, 19-144.

National Science Foundation. (2022). Environmental STEM Education.

Ngwenya, J. C., & Nzuza, S. (2022). Teachers' views on the role of economic and management sciences in preparing learners for accounting in the Further Education and Training Phase. *South African Journal of Education*, 42(4).

Ntsanwisi, S. (2024). Bridging Gaps in STEM Education: The Case for Dedicated Learning Centres in South African Townships and Rural Areas. *European Journal of STEM Education,* 9(1), 15.

Okeke, B. L., & Eze, C. P. (2010). Repositioning Vocational and Technical Education for the 21st century: implications and challenges. *Journal of Vocational and Adult Education,* 7(1), 279.

Okesina, M. (2020). A critical review of the relationship between paradigm, methodology, design and method in research. IORS *Journal Handbook of qualitative research of Research & Method in Education*, *101*, 57-68.

Okoye, K. R. E., & Okwelle, P. C. (2014). Technical vocational education and training (TVET) as intervention mechanism for global competitiveness: Perspectives from Nigeria. *Developing Country Studies*, 4(4), 85-91.

Onuf, N. G. (2012). Constructivism. In *World of our making* (pp. 35-65). Routledge.

Opfer, V. D., & Pedder, D. (2016). Conceptualizing teacher professional learning. Review of Education Research, 81 (3), 376-407.

Pandey, P., & Pandey, M. M. (2021). *Research Methodology: Tools and Techniques,* 2nd Ed. Bridge Center, Romania.

Patton, M. Q. (2015). The sociological roots of utilization-focused evaluation. *The American Sociologist*, *46*(4), 457-462.

Pelgrum, W. J. (2001). Obstacles to the integration of ICT in education: Results from a worldwide educational assessment. *Computers & Education*, 37(2), 163-178.

Prichard, J. S., Bizo, L. A., & Stratford, R. J. (2006). The educational impact of team-skills training: Preparing students to work in groups *British Journal of Educational Psychology, 76*(1), 119-140.

Priestley, M. (2011). Schools, teachers, and curriculum change: A balancing act? Journal of educational change, 12(1), 1-23.

Ritchie, J., Ormston, R., McNaughton Nicholls, C., & Lewis, J. (2013). Qualitative research practice: A guide for social science students and researchers.

Rubin, H. J. E., & Rubin, I. S. (2012). Research design: equalisation, quantitative, and moved method approaches.

Saad, N. S., Ghani, S. A., & Rajendran, N. (2015). *The sources of pedagogical content knowledge (PCK) used by mathematics teachers during instruction: A case study*.

Salvatore, L. (2024). Moving forward in the world: Outcomes and communication for effective reform. *Future in Educational Research,* 2(1), 6-15.

Santhi, N. (2011). Are extra classes the success behind high performance and marks? *Educational Research and Reviews*, 6(18), 935.

Saunders, M., Lewis, P., & Thornhill, A. (2020). *Research Methods for Business Students.* 9th Ed, Prentice Hall.

Savage, J. (2014). *Lesson Planning: Key concepts and skills for teachers.* Routledge.

Schaefer, J., & Davis, C. (2004). Case management and the chronic care model: a multidisciplinary role. Lippincott's case management. *Managing the process of patient care, 9(*2), 96–103.

Schoenfeld, A. H. (2013). Classroom observations in theory and practice. *ZDM*, *45*, 607-621.

Schreuder, G. R. (2009). *The role of economic and management sciences (EMS) in preparing learners for accounting in grade 10* (Doctoral dissertation), Cape Peninsula University of Technology.

Shulman, L. S. (1986). Those who understand knowledge growth in teaching. *Educational Research, 15*(2), 4-14.

Shulman, L. S. (1987). Knowledge and teaching: Foundation of the new reform. *Harvard Education Review, 57*(1), 1-22.

Smith, J. M. (2015). Connecting Young South Africans to Opportunity: Literature review and strategy. Cape Town: DG Murray Trust. [online] Available from http://www.dmgt.co.za/files/2001/05/LiteratureReview-Strategy.pdf

South African Department of Basic Education. (2011). Curriculum and Assessment Policy Statement (CAPS): Economic and Management Sciences: Pretoria. Department of Basic Education

South African National Department of Basic Education. (2012). Curriculum and Assessment Policy Statement (CAPS)

South African National Development of Basic Education. (2012). Curriculum and Assessment Policy Statement (CAPS): Environmental Education.

Soisangwarn, A., & Wongwanich, S. (2014). Promoting the reflective teacher through peer coaching to improve teaching skills. *Procedia-Social and Behavioral Sciences*, 116, 2504-2511.

Thomas, G., & Brown, S. J. (2011). *A new culture of learning: Cultivating the imagination for a world of constant change*. Lexington, KY: Create Space.

Tobi, H., & Kampen, J. K. (2018). Research design: the methodology for interdisciplinary research framework. *Quality & quantity*, *52*, 1209-1225.

Tondeur, J., van Braak, J., Ertmer, P. A., & Ottenbreit-Leftwich, A. (2017). Understanding the relationship between teachers' pedagogical beliefs and technology use in education: A systematic review of qualitative evidence. *Educational Technology Research and Development*, 65, 555–575.

Tshelane, M. (2013). Participatory action research and construction of academic identity among postgraduate research students. *The Journal for Transdisciplinary Research in Southern Africa*, 9(3), 401-429.

Tu, P. N. (2013). *Introductory Optimization Dynamics: optimal control with economics and management science applications*. Springer Science & Business Media.

UNESCO. (2020). *ICT in Education*. https://en.unesco.org/themes/ict-education

Vandell, D. L., Reisner, E. R., Brown, B. B., Pierce, K. M., Dadisman, K., & Pechman, E. M. (2004). *The study of promising after-school programs: Descriptive report of the promising programs*. University of Wisconsin, Madison: Wisconsin Center for Education Research.

Van Driel, J. H., Verloop, N., & De Vos, W, (2002). Developing pedagogical content knowledge: A case study of problems and opportunities to learn. *Teaching and Teacher Education,* 18(18), 901-911.

Venter, E., & Hayidakis, H. (2021). Determinants of innovation and its impact on financial performance in South African family and non-family small and medium-sized enterprises. *The Southern African Journal of Entrepreneurship and Small Business Management, 13*(1), 414.

Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education*, 24(11), 80-91.

Wallace Foundation. (2011). Getting to Work on Summer Learning: Recommended Practices for Success. Available from: https://www.wallacefoundation.org/knowledge-center/ Documents/Getting- to work –on –summer learning

Waldron, J., & Tippett, V. C. (2018). Developing a pedagogical content knowledge framework for EMS educators. *Journal of Emergency Medical Services,* 39(5), 56-61

Ward, P., & Kim, M. (2018). The role of content knowledge in the teaching effectiveness of novice and experienced physical education teachers. *Journal of Teaching in Physical Education,* 37(1), 60-67.

Yilmaz, D. D., & Demir, B. K. (2021). Mathematics Teachers' Pedagogical Content Knowledge Involving the Relationships between Perimeter and Area. *Athens Journal of Education,* 8(4), 361-384. https://doi.org/10.30958/aje.8-4-2.

Yilmaz, N. P. (2016). ICT Student Teachers' Pedagogical Content Knowledge: A Case Study. Eurasia Journal of Mathematics. *Science & Technology Education*, 12(1), 133-152.

Zukani, N. M. (2018). *Factors Affecting Teachers' Attitude Towards the Implementation of Inclusive Education* (Doctoral dissertation), University of Fort Hare.

APPENDICES

ANNEXURE A: LETTER REQUESTING PERMISSION FOR CONDUCTING RESEARCH

Central University of Technology, Free State
tselaneledimo@gmail.com
Tselane Ledimo
2188 Airport Street
Phomolong
Hennenman
9445
21 July 2023

Department of Basic Education
Old Woolworths Building
WELKOM
9460

RE: Permission to conduct research

I am a registered student at the Central University of Technology and wish to conduct research at a school/s within the Lejweleputswa District that produces average results in the subject of Economic and Management Sciences, my study is entitled:

Strategies improving pedagogical content knowledge of Economic and Management Sciences of Teachers in Lejweleputswa District.

The research will be conducted according to all stipulated ethics of research. The School Management Team and the District Director will be informed continuously with the developments of the research.

Yours sincerely,

ANNEXURE B: REQUEST TO TEACHERS TO PARTICIPATE IN A FACE-TO-FACE INTERVIEW

You are requested to participate in a research study conducted by Tselane Ledimo, who is currently studying towards MED at Central University of Technology, Free State. The results of the study will be contributed towards the completion of the Dissertation. You were selected as a possible participant in this study because you are the teacher at the identified school.

1. PURPOSE OF THE STUDY

The purpose of the research study is to potentially contribute to the field of knowledge and extension of conceptual understanding regarding the following key factors:

- Strategies improving pedagogical content knowledge of Economic and Management Sciences of Teachers in Lejweleputswa District.

2. PROCEDURES

Participate in a face-to-face interview which will take approximately 30 minutes of your time to be completed. The interviewer will have a set of question that would have been prepared in advance and the interviewer will ask the interviewee to answer the questions. Adequate time will be given for participants to answer the questions that would be asked, as the interviewer would be taking notes of the interviewees' responses.

3. POTENTIAL RISKS AND DISCOMFORTS

Foreseeable risks include:

The methodology of the study involves Face-to-face or telephone interviews prepared in conjunction with the university in the process of undertaking the project. At the end of the project, the institution will be informed that they are at all liberty to treat the reports as confidential or make them available to the public. Hence, permission will be sought from participating institution to enable the researcher to have access to these reports. There will therefore be no personal risk or discomfort whatsoever to individual participants in this study.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

The information shared in the face-to-face or telephone interviews will potentially enhance participants' understanding of and growth in the education segment. The broader society, learners, teachers and the district will potentially benefit from the findings of the study that could deal with the pedagogical content knowledge of Teachers in the EMS field.

5. PAYMENT FOR PARTICIPATION

Participants will not receive any remuneration for participation in the study.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with any participants will remain confidential and will be disclosed only with personal permission or as required by law. Confidentiality will be maintained by means of categorizing participants and school alpha-numerical, lock audio digital-recordings and notes of the face-to-face or telephonic interviews, focus-group interviews safe at my house. The researcher will be the only person with access to the safe. The transcription, recordings and notes will be destroyed six months after the researcher completed the research study or as soon as required by the University.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kinds. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so. If the participants cease to be in the employment of the school, the investigator will terminate the participant's involvement in the study.

8. DECLARATION

I declare that I explained the information given in this document to _____. He/she was encouraged and given ample time to ask me questions pertaining to the study. This was conducted in English.

_____

ANNEXURE C: PRINCIPALS CONSENT TO ALLOW THE RESEARCHER TO CONDUCT RESEARCH AT THE SCHOOL

TO WHOM IT MAY CONCERN

Date : _____

Consent to allow the researcher to conduct the research at the school entitled:

Strategies improving pedagogical content knowledge of Economic and Management Sciences of Teachers in Lejweleputswa District.

This letter serves to confirm that I, _____ (Name and Surname) the Principal of _____, allow Tselane Ledimo to conduct research at the school provided that the research will not interfere with effective teaching and learning, and it will be carried out after school.

Yours faithfully

_____ Date: 18/04/2024

Principal Signature

_____ Date: 18/04/2024

Researcher Signature

208043047

ANNEXURE D: TEACHER'S CONSENT TO PARTICIPATE IN A FOCUS-GROUP INTERVIEW

TO WHOM IT MAY CONCERN

Persal Number : _____

Date : _____

Consent to participate in research entitled:

Strategies improving pedagogical content knowledge of Economic and Management Sciences of Teachers in Lejweleputswa District.

This letter serves to confirm that I, _____ have voluntarily agreed to participate in a face-to-face or telephonic interview for the above-mentioned study. I made a choice to voluntarily participate after being informed about the data collection procedure and all the possible implications of my involvement in the study. I have also been informed of my right to withdraw from the study any time I feel I can no longer continue for any reason (or whatsoever the case it may be) and such a decision will not have negative outcomes on me.

Yours faithfully

_____ Date:

Teacher Signature

_____ Date: 19/04/2024

Researcher Signature

(208043047)

ANNEXURE E: PARENT'S CONSENT TO ALLOW THE LEARNER TO PARTICIPATE IN THE STUDY QUESTIONNAIRE

TO WHOM IT MAY CONCERN

Date : _____

Consent to allow the learner to participate in a study questionnaire entitled:

Strategies improving pedagogical content knowledge of Economic and Management Sciences of Teachers in Lejweleputswa District.

This letter serves to confirm that I, _____ (Name and Surname) have voluntarily permitted my child to participate in a face-to-face or telephonic interview for the above-mentioned study. I have made a choice to allow my child to participate after being informed about the data collection procedure and all the possible implications of my child's involvement in the study. I have also been informed of my right to withdraw my child from the study at any time I feel I can no longer allow my child to continue for any reason (or whatsoever the case it may be) and such a decision will not have negative outcomes for my child.

Yours faithfully

_____ Date:

Parent Signature

_____ Date: 18/04/2024

Researcher signature

(208043047)

ANNEXURE F: PRINCIPAL CONSENT TO PARTICIPATE IN THE STUDY'S FACE-TO-FACE OR TELEPHONE INTERVIEW.

TO WHOM IT MAY CONCERN

Persal Number : _____

Date : _____

Consent to participate in research entitled:

Strategies improving pedagogical content knowledge of Economic and Management Sciences of Teachers in Lejweleputswa District.

This letter serves to confirm that I, _____ have voluntarily agreed to participate in a face-to-face or telephone interview for the above-mentioned study. I made a choice to voluntarily participate after being informed about the data collection procedure and all the possible implications of my involvement in the study. I have also been informed of my right to withdraw from the study any time I feel I can no longer continue for any reason (or whatsoever the case it may be) and such a decision will not have negative outcomes on me.

Yours faithfully

_____ Date:

Principal Signature

_____ Date: 18/04/2024

Researcher signature:

(208043047)

ANNEXURE G: LEARNING FACILITATOR CONSENT TO PARTICIPATE IN THE STUDY'S TELEPHONE INTERVIEW

TO WHOM IT MAY CONCERN

Persal Number : _____

Date : _____

Consent to participate in research entitled:

Strategies improving pedagogical content knowledge of Economic and Management Sciences of Teachers in Lejweleputswa District.

This letter serves to confirm that I, _____ have voluntarily agreed to participate in a face-to-face or telephone interview for the above-mentioned study. I made a choice to voluntarily participate after being informed about the data collection procedure and all the possible implications of my involvement in the study. I have also been informed of my right to withdraw from the study any time I feel I can no longer continue for any reason (or whatsoever the case it may be) and such a decision will not have negative outcomes on me.

Yours faithfully

_____ Date:

Learning Facilitator

_____ Date:18/04/2024

Researcher Signature

(208043047)

Annexure H: INTERVIEW QUESTIONS FOR PRINCIPAL, TEACHERS, LEANERS AND LEARNING FACILITATOR

(before the interview questions are asked the below information will be shared)

For your information, please note the following:

- Answer as honestly as you possibly can
- Participation and completion of this questionnaire is voluntary
- All responses will be kept strictly confidential and will only be used for purposes
- of the study.
- Anonymity will be guarded at all costs
- Your participation and contribution will be regarded as highly valuable.

Questions:

1. Can you tell us about the strategies you currently use to enhance the professional knowledge and classroom competence of EMS teachers?
2. What specific initiative or programmes do you implement to improve the subject specific knowledge and teaching skills of EMS teachers in the district of your school?
3. How do you ensure that EMS teachers stay updated with the latest advancements, theories and practices in their occupation?
4. Are there any collaborative platforms or networks that you encourage EMS teachers to engage with to exchange ideas and enhance their teaching methods?
5. How do you evaluate the effectiveness or the strategies implemented to improve Professional Competence and Classroom Knowledge and Content Knowledge?
6. Can you elaborate on any success stories or examples where EMS teachers have shown significant improvement in their PCK and CK through the implemented strategies?
7. Have you encountered any challenges in improving the PCK and CK of EMS teachers in the school? If so, how did you overcome them?
8. How do you collaborate with other stakeholders, such as training institutes or experts in the field, to continuously improve the PCK and CK of EMS teachers?

Annexure I: INTERVIEW QUESTIONS FOR LEARNERS

1. How do you define the role of EMS?
2. Can you provide examples of strategies that you think could improve the knowledge and skills of an EMS teacher?
3. In your opinion, what specific areas of EMS should an effective teacher focus on to enhance learners' understanding and interest?
4. How important do you think it is for an EMS to stay updated with the latest trends and developments in the field? How can they do this?
5. What are some effective teaching methods or techniques that you believe can make the subject more engaging and accessible for primary school learners?
6. Do you think it is important for an EMS teacher to incorporate real-life examples and case studies into their teachings? Why or why not?
7. How can technology be effectively integrated into the teaching and learning process for EMS? Can you provide an example?

Annexure J: Editing Letter

PROF EDIT MBA

Marieta Grundling (MBA)

9 Akasia Street
Vierfontein Ontwikkelingsgroep
2615
081 354 1596
edit@profeditmba.co.za
17 April 2025

To Whom It May Concern

This serves to confirm that the dissertation: **STRATEGIES IMPROVING PEDAGOGICAL CONTENT KNOWLEDGE OF ECONOMIC AND MANAGEMENT SCIENCES OF TEACHERS IN LEJWELEPUTSWA DISTRICT** by *Tselane Ledimo* was edited. The language, presentation, referencing system (both in-text and against the Reference List), were checked and corrected.

M Grundling
17 April 2025