The use of Information Communication Technologies in the teaching of reading at Grade 10 level: a case study

By

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DECLARATION

I, Rushaad White, declare that the contents of this thesis reflect my independent effort, and that the thesis has not been previously submitted for academic examination in pursuit any qualification. Additionally, it conveys my personal viewpoints and not necessarily those of the Cape Peninsula University of Technology.

R. White 02/07/2023

Signed Date

ABSTRACT

The COVID-19 pandemic forced many schools in South Africa to close their doors to the spread of the virus. As a result, teachers and learners were forced to adapt to remote learning which presented several challenges, particularly for those who lack access to Information and Communication Technologies (ICTs). This study focuses on the pandemic's impact on reading skills and, specifically, how ICTs can transform teacher pedagogy by influencing classroom planning, and engagement, and incorporating technology-enabled innovative methods to result in increased student engagement and improved teaching practices when teaching reading at the Grade 10 level. A qualitative research approach was adopted, and an interpretative paradigm was used to investigate how ICTs can enable or constrain teaching reading. The study was conducted in an under-resourced school in the Southern Suburbs of Cape Town, and purposive sampling was used to select English teachers who taught at Grade 10 level. Data were collected for six months through document analysis, classroom observations, and semi-structured individual interviews. The researcher received ethical clearance from both the Cape Peninsula University of Technology (CPUT) and the Western Cape Education Department (WCED). This study aims to contribute towards understanding ICTs that can be used to improve teaching reading in under-resourced schools.

Key words: Information and Communication Technologies (ICTs); remote learning; teaching reading; Grade 10 level reading; COVID-19 pandemic

DEDICATION

To Doctor Hanlie Dippenaar (2016), with heartfelt gratitude for your pivotal role in my life over the past eight years. The only fitting repayment is to follow in your footsteps.

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ABBREVIATIONS AND ACRONYMS

Abbreviation/Acronym	Explanation
AR	Augmented Reality
ATP	Annual Teaching Plan
CAPS	Curriculum and Assessment Policy Statement
CEL	Centre for Extended Learning
CK	Content Knowledge
COVID-19	Coronavirus Disease 2019
CTLI	Cape Teaching and Leadership Institute
DIVE	Digital Institute for Virtual Education
DBE	Department of Basic Education
EHL	English Home Language
ESP	English for Specific Purposes
FAL	First Additional Language
FET	Further Education and Training
ICT	Information and Communication Technologies
LMS	Learning Management System
Moodle	Modular Object-Oriented Dynamic Learning Environment
PK	Pedagogical Knowledge
PMG	Parliamentary Monitoring Group
PIRLS	Progress in International Reading Literacy Study
NQF	National Qualifications Framework
SAMR	Substitution, Augmentation, Modification, and Redefinition
SMT	School Management Team
TK	Technological Knowledge
TPACK	Technological Pedagogical Content Knowledge
UNESCO	The United Nations Educational, Scientific, and Cultural Organisation
WCED	Western Cape Education Department

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CHAPTER ONE

INTRODUCTION AND OVERVIEW

"Today, educational information technology and pedagogical practices are inseparable fields."

(Kihoza, Zlotnikova, Bada & Kalegele, 2016:121)

1.1 Introduction and background

In 2020, countries around the world went into a strict lockdown, and most sectors were closed, including education. Mhlanga and Moloi (2020:3) believe that the pandemic acted as an incentive towards digital transformation. This shift generated anxiety for teachers who were not computer literate (Mulyadi, Wahyuningsih, Budiastuti, Ifadah, Aimah & Siti, 2020:130). Reading was neglected because learners either did not have access to reading material and resources or teachers were not available to provide resources or teach reading skills (Mhlanga & Moloi, 2020:6). The outbreak of the Coronavirus Disease 2019 (COVID-19) significantly impacted the way learning was conducted at all levels. Education institutions across the world had to adapt to new teaching methods, including online learning. Various platforms were used to teach virtually using videoconferencing applications such as Zoom, Google Meet, Microsoft Teams, and Skype being used widely. Among these, Google Meet was particularly popular at the University of Souk Aras (Blanchet, Badi & Aggoune, 2022:30).

Nafisah, Alamery, Nafesa, Aleid, and Brazanji (2018:659) conducted a study in 2017 based on the effects of the influenza pandemic in various countries and suggest that school closure was needed to delay the peak by adhering to social distancing rules. Teachers were compelled to pursue alternative teaching methods. After the Covid-19 pandemic, it can be expected that blended learning will become a norm in education (Zawadka, Miękisz, Nowakowska, Plewko, Kochańska & Haman, 2021:6894). Mustapha and Kurt (2021:1321) articulate that distance education was implemented to ensure teaching and learning during the pandemic and recommend that, during a pandemic, safety protocols should be implemented and an inclusive return to school for all teachers and learners remains a priority. Due to the closure of schools, teachers relied on different approaches to education, including the use of ICTs. The pandemic prevented teachers from using common paper-based resources and forced a more digital approach.

In 2020, the Western Cape Education Department (WCED) released reading strategies to ensure that each learner can read by the age of 10 years old (WCED, 2020). The WCED presents six pillars to be implemented as strategies to provide learner support through intervention: firstly, aiding learners through diverse intervention techniques; secondly,

furnishing educational resources to enhance teaching methodologies; thirdly, enhancing teacher professional development to ensure high-quality instruction; fourth, conducting research to validate effective strategies; fifth, promoting awareness via various channels to ensure widespread engagement; lastly, involving parents and the community to ensure comprehensive stakeholder participation and role fulfilment (WCED, 2020). The WCED revealed that the Progress in International Reading Literacy Study (PIRLS) and the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SAQMEC) 2017 results were used to develop these reading strategies. For this study, it is relevant to investigate whether these strategies have been developed by the WCED and examine the role of ICTs in teaching reading. By exploring these aspects, the research aims to shed light on the potential impact of ICT integration on reading instruction.

This study aims to explore the use of ICTs in the English classroom to enhance teacher pedagogy when teaching reading. Hence, this study supposes that ICTs can develop a teaching methodology which might spark learners' interest in reading and understanding of relevant material. An informal survey was conducted at a secondary school in the Western Cape, and the participants were both experienced and inexperienced teachers. Data showed a lack of resources for teachers to utilise digital skills or improve their technological pedagogy. Despite this, some teachers indicated that technology is a tool that sparks learners' interest in their lessons. The rationale behind this study is to explore possible methods to promote the use of ICTs in teaching reading. Integrating ICTs in teachers' pedagogy may provide teachers with opportunities to utilise ICTs to enhance teaching and learning (Park & Son, 2022:311).

1.2 Problem statement

The year 2020 has seen the negative impact of Covid-19 on education worldwide, particularly in under-resourced schools. In South Africa, government schools were affected more severely by the pandemic as many of the schools have limited access to ICTs and other resources.

With the advent of the Covid-19 pandemic, many schools closed or shifted to remote learning, further highlighting the need for teachers to be proficient in using ICTs in their teaching. However, the lack of access to resources and training made it difficult for many teachers in government schools to proficiently incorporate ICTs into their teaching. The challenges teachers face in using ICTs to teach reading are particularly concerning, given the increasing reliance on technology in education.

This presents a major problem for teachers: learners who struggle to read with comprehension are likely to struggle in other learning areas as well. Poor reading skills can hinder students' ability to fully engage with and understand the material being taught, leading to lower grades and a lack of progress (WCED, 2020:4). In addition, reading is an essential skill necessary for

success in academia and the labour market and a lack of proficiency in reading can have long-term consequences for learners. It is crucial to address reading difficulties comprehensively, considering a range of strategies and interventions, rather than relying solely on ICTs, to ensure effective support and improvement in reading skills.

There is a notable lack of comprehensive research that investigates how the use of ICTs. This gap hinders our understanding of the unique challenges, opportunities, and pedagogical approaches associated with ICT-supported reading instruction for Grade 10 learners. This research project seeks to shed light on the impact of integrating ICTs in teaching reading at the Grade 10 level on instructional practices. By examining the experiences and perceptions of teachers using ICTs in their reading instruction, the study aims to better understand how these technologies influence instructional approaches. It explores how the use of ICT tools and resources affects lesson planning, instructional strategies, student engagement, and overall teaching methodologies. The research will also address the challenges that teachers face in incorporating ICTs and propose potential solutions.

1.3 Main research question

The main research question is: How does the integration of ICTs in teaching reading at the Grade 10 level affect instructional practices?

1.3.1 Research sub-questions

1. How could ICTs be used in teaching reading?

2. What are teachers' experiences with ICTs in teaching reading?

3. How could teachers be supported to use ICTs in the teaching of reading?

1.4 Aim of the study

The overarching aim of this study is to examine how the integration of ICTs in teaching reading at the Grade 10 level impacts instructional practices. The study furthermore aims to analyse the benefits of using ICTs as a tool to enhance reading and how it may affect the experience of teachers. The objectives of this study may be formulated as follows:

i. Explore strategies that may be used in teaching reading through the use of ICTs;

ii. Determine how teachers experience teaching reading with ICTs; and

iii. Explore effective strategies for supporting teachers in the use of ICTs.

1.5 Delineation of the research

This research focuses on the influence of Information and Communication Technologies (ICTs) on the pedagogy of Grade 10 English teachers who teach reading. Specifically, the research aims to explore how ICTs are used by these teachers in their reading instruction and to understand the impact of these technologies on their teaching practices. The findings of this research will provide insights into how ICTs are used in teaching reading by Grade 10 English teachers and will inform the development of best practices for using these technologies in reading instruction. Additionally, the study will add to the existing body of knowledge about the utilisation of ICTs in the field of education and will provide valuable insights for educators and researchers interested in the role of ICTs in teaching reading.

1.6 Overview of the dissertation structure

Chapter 1

Chapter 1 discusses the impact of Covid-19 on education, particularly on reading skills, and the use of ICTs to enhance reading pedagogy. The chapter starts by highlighting the shift towards digital transformation caused by the pandemic, which generated anxiety for teachers who were not computer literate. It is mentioned also that reading was neglected due to limited access to reading material and resources. The chapter then discusses the pandemic's impact on education in Algeria and the need for alternative teaching methods. The Western Cape Education Department's (WCED's) reading strategy is mentioned briefly as well. The problem statement highlights teachers' challenges in using ICTs to teach reading, particularly in under-resourced schools, and how poor reading skills can hinder learners' progress. The chapter concludes with the rationale behind the study and the need to explore possible methods to promote the use of ICTs in teaching reading.

Chapter 2

In Chapter 2, the topic is investigated through a literature review. The review examines the benefits and challenges of using ICTs and gathers insights from relevant research. It considers the role of digital literacy and government support in using ICTs in education and looks at research from various sources, including studies conducted in South Africa. The impact of the COVID-19 pandemic on the use of ICTs in education and efforts by popular organisations to support remote learning is examined as well. To conclude Chapter 2, the researcher examines the TPACK and SAMR models as possible theoretical frameworks.

Chapter 3

Chapter 3 discusses the research methodology used in this study. The research paradigm and design and the data collection methods are revealed. The researcher then reviews the TPACK and SAMR models to link them with the research methodology.

Chapter 4

Chapter 4 presents an overview of the data collected for the study, which focuses on exploring the impact of ICTs on teaching reading at the Grade 10 level. The chapter introduces three data sets used to gather information about the use of digital technology in education, including document analysis, classroom observations, and semi-structured individual interviews. The data sets were analysed to answer the research questions, and the findings are presented in a narrative form with supporting quotes and examples when appropriate. The presentation of data is structured according to the research questions, and the themes and patterns identified in the data are summarised in the data analysis section. The chapter provides an in-depth understanding of the challenges and opportunities for using ICTs to teach reading in the English Home Language classroom and provides insights into how teachers can be supported to use ICTs effectively in their teaching practice.

Chapter 5

Chapter 5 provides an analysis of the data collected in Chapter 4, which focuses on exploring the influence of ICTs on teaching reading at the Grade 10 level. The chapter begins with an introduction explaining how the data analysis was conducted, including the theoretical frameworks to guide the research questions. The chapter also presents the primary research question and three sub-questions the study addresses.

The data analysis process, concerning the three data sets (document analysis, classroom observations, and semi-structured individual interviews) used in the study, is presented. The findings are reported in a narrative form with supporting quotes and examples when appropriate. The chapter overviews the themes and patterns from the data analysis and summarises the findings.

Chapter 6

Chapter 6 of the dissertation provides an overview of the study, including the research questions and objectives. It summarises the main findings and conclusions by discussing the factors that may enhance or constrain teachers' ability to teach reading using ICTs. The chapter also provides recommendations for future research to explore the use of ICTs for teaching reading in various educational contexts while addressing the limitations and challenges encountered in the study. Furthermore, the chapter provides suggestions for further research to extend the knowledge on this topic, including recommendations for

exploring the use of ICTs for teaching reading in different grades and settings as well as strategies for supporting teachers in effectively using ICTs.

1.7 Clarification of concepts

1.7.1 Information Communication Technologies (ICTs)

Technologies such as computers, the Internet, and mobile devices which allow for the creation, storage, and dissemination of information and communication.

1.7.2 Digital literacy

The ability to use and understand digital technologies, including the ability to use various software platforms and applications.

1.7.3 Learning Management Systems (LMS)

Software platforms that allow teachers to create and manage online learning materials, including course content, assignments, and assessments.

1.7.4 Curriculum and Assessment Policy Statement (CAPS)

The national curriculum framework for schools in South Africa outlines the content and skills that students should learn at each grade level.

1.7.5 Technological, Pedagogical, and Content Knowledge (TPACK)

This framework suggests that teachers should strongly understand the content they are teaching and the pedagogical approaches and strategies they are using to integrate technology into their teaching effectively.

1.7.6 Substitution, Augmentation, Modification, and Redefinition (SAMR) model

A framework that suggests four levels of technology integration in education, ranging from the substitution of traditional tools with technology to the redefinition of the learning process through technology.

1.7.7 Professional Development Framework for Digital Learning

A framework released by the Department of Basic Education in South Africa guides teachers on effectively incorporating ICTs into their teaching practices.

1.7.8 Reading Software

Software programmes designed to support the teaching and learning of reading skills, such as reading comprehension and vocabulary development.

1.7.9 Augmented reality

Technology that overlays digital information onto the physical world, which allows users to interact with virtual elements in a real-world environment.

1.8 Conclusion

The first chapter establishes the study's backdrop and issue statement, emphasising the influence of the COVID-19 pandemic on schooling, particularly in terms of reading skills and the usage of ICTs. It underlined the difficulties faced by instructors in under-resourced schools, the significance of holistically addressing reading difficulties, and the growing reliance on technology in education. To address these concerns, the following main study question was developed: "*How does the integration of ICTs in teaching reading at the Grade 10 level affect instructional practices?"* Three sub-research topics were identified also to help steer the investigation.

The second chapter attempts to provide a foundation of knowledge and to identify gaps in research addressing the use of ICTs in teaching reading, particularly in the South African context, by examining the available literature. The conclusions of this review will be useful for educators, academics, and policymakers interested in the role of ICTs in improving reading pedagogy.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The use of Information Communication Technologies (ICTs) in education has become increasingly prevalent in recent years. Many schools and educators recognise the potential benefits of integrating these technologies into the processes of teaching and learning. In particular, the use of ICTs in teaching reading has garnered attention as a potentially effective method for supporting student learning and engagement. However, while there is a growing body of research on the use of ICTs in education, there is limited research on the specific use of ICTs in teaching reading in South Africa.

The purpose of this literature review is to examine the existing research on the use of ICTs in teaching reading, whilst focusing on the South African context. The review begins by discussing the widespread use of ICTs in teaching and learning, including the level of digital literacy among South African teachers and the various ICT-based teaching methods implemented in schools. The review examines the benefits and challenges of using ICTs in education, including the potential impact on student learning outcomes.

The review also focuses on the specific area of reading and the various approaches to teaching reading, including traditional methods and those that utilise ICTs. In addition, the review considers the role of the South African Curriculum and Assessment Policy Statement (CAPS) in shaping the teaching of reading and the use of ICTs in the classroom. Finally, the review introduces the theoretical frameworks that were used to guide the research, including the Technological, Pedagogical, and Content Knowledge (TPACK) framework and the Substitution, Augmentation, Modification, and Redefinition (SAMR) model.

The main aim of the literature review is to offer an extensive report on how ICTs are used to teach reading in South Africa. It analyses recent research on the topic and identifies areas that require further investigation. By examining the existing literature, this review could potentially provide insights into the potential benefits and challenges of using ICTs in teaching reading and informs future research in this area.

2.2 The use of ICTs in teaching and learning

This section focuses on the various perspectives on using ICTs in teaching and learning. ICTs refer to instruments and materials used to convey and manage information (Mocanu & Deaconu, 2017:19). These include technologies such as computers, televisions or projectors, radios, hardware and software platforms, satellite systems, and networks (Alameel & Chouthaiwale, 2018:30).

The use of ICTs has significantly changed education in recent decades. Instead of relying on traditional classroom content and a teacher-centred approach, ICTs have allowed teachers and learners to access various information sources and develop their digital skills. The use of ICTs has led to a shift in the focus of curricula from content-centred to competency-based and has also facilitated the teaching process for educators through tools such as data shows, online classes, and digital exams. In addition, the use of ICTs has allowed for greater flexibility and connectivity in the higher education sector by enabling teachers and learners to maintain contact beyond the physical confines of educational institutions (Ghaskil & Boukhelouf, 2022:255).

Tsitsia, Safo, Doyi, and Kabbah (2021:22) found that students mostly use ICTs to research, make class presentations, and communicate via the social network at school. Students feel motivated to engage and collaborate during activities in the classrooms (Tsitsia et al., 2021:22). The researchers conducted this research at colleges in Ghana, and they recommend that universities and stakeholders should propagate ICT courses in the curriculum for teachers to be equipped with the skills they require for ICT-based lessons. As the previous researchers mentioned, Ojo and Adu (2018:9) agree that the government must invest the necessary resources and facilities to implement ICT-based teaching methods successfully.

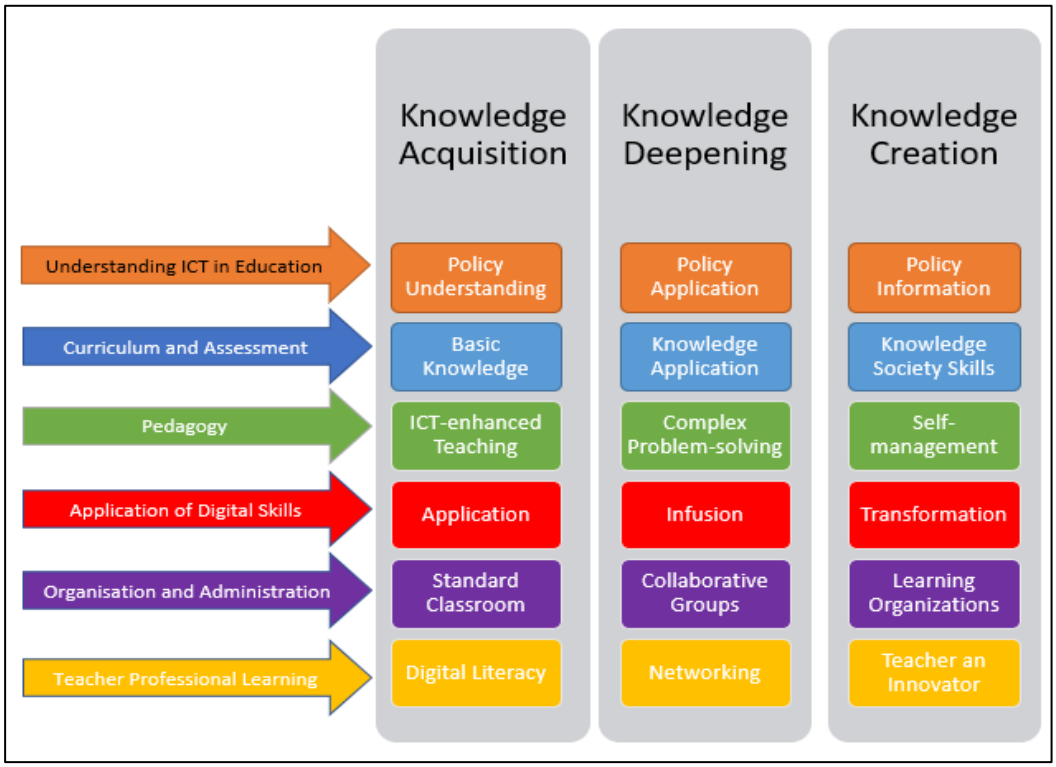


Figure 2.1 ICT Competency Framework for Teachers (Adapted from UNESCO, 2021)

The United Nations Educational, Scientific and Cultural Organisation (UNESCO) Institute for Information Technologies in Education (IITE) held a conference which aimed to discuss the pandemic and its effects on education worldwide. Their plan aims to aid teachers with new technical solutions, resources for distant learning, and training opportunities (Zhan, 2020). Teachers' roles in planning and deploying ICTs to enhance and change learning must be reconsidered if ICTs are to be successfully integrated into teaching and learning (UNESCO, 2021). To ensure that every teacher can effectively employ technology for classroom learning, educational systems need to consistently revise and modify teacher training and ongoing professional development (UNESCO, 2021). Figure 2.1 illustrates the ostensible ICT Competent Framework for Teachers designed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) which seeks to aid countries in developing comprehensive teacher ICT competency policies and standards and among these overarching ICTs in education. In contrast, Benini (2014:27) disputes ICT as a suitable teaching method considering that teachers are reluctant to integrate it into their teaching. Although ICTs are effective as a tool to use in the classroom, it is not regarded as fundamental to the teaching and learning process. Benini's view challenges the optimistic view of UNESCO by emphasising the resistance or reluctance of teachers to adopt and integrate ICT into their teaching methods. This contrast highlights the potential barriers associated with implementing ICT in education which may hinder the realisation of the goals outlined in the UNESCO framework. Ojo and Adu (2018:9) conclude that ICTs promote teaching and learning but are not used according to their purpose, specifically in Eastern Cape secondary schools.

2.2.1 Digital literacy among South African teachers

As technology penetrates our lives (Drigas & Charami, 2014:5), digital literacy is the collection of knowledge linked to digital technologies (Hamutoglu, Savasci & Sezen-Gultekin, 2019:104). Ata and Yildirim (2019:2) add that accessing accurate information in authentic and virtual environments with the desired purpose and using it efficiently with the appropriate method is considered digital literacy. Thus, existing research has the potential to enlighten and articulate the types of knowledge teachers require to integrate ICTs into literacy instruction (Voogt & McKenney, 2017:71).

According to the definition of digital literacy, the use of digital media includes interpreting, collaborating, evaluating, and demonstrating skills required to produce digital media content (Ata & Yildirim, 2019:2). As one of the focal competencies in the curriculum, digital literacy should be important for the training of potential teachers who will carry out the curriculum (Dedebali, 2020:137) as it would be argued that this training is related to teacher quality, such as the level to which teachers possess awareness of digital technologies and associated skills, as well as the extent of their thorough understanding of digital technologies (Ata & Yildirim,

2019:2). As a result, Baro, Obaro, and Aduba (2019:182) found that the majority (97%) of their participants indicated that workshops/training seminars are paramount for the acquisition of digital literacy competencies.

Consistent with all the assessments (Ata & Yildirim, 2019:2) in the curriculum (Dedebali, 2020:137), digital literacy is more than just reading, consuming, and interpreting digital media messages (Ata & Yildirim, 2019:2). It is a relationship among literacy, technology, and society (Njenga, 2018:6). Digital literacy is more than using computers; it integrates reading, understanding technology, and how the user/reader fits into the digital world. Njenga (2018:6) further illustrates that it becomes a process of empowerment as it enables the teacher not only to utilise a tool but also to develop professionally.

According to Mnyanda and Mbelani (2018:6), in South Africa specifically, when ICTs were included in teaching, there was a limited correlation between what the learners understood and what teachers presented. According to participants, this view is linked to Chinyamurindi and Dlaza's (2018:4) findings that there is resistance to using digital technologies because of the lack of impact on actual learning. Similarly, Campbell and Kapp (2020:18) discovered that their participants, specifically educators, have deep diffidence about their digital competence. Drigas and Charami (2014:8) argue that, toward such diffidence, it is imperative that teachers can use ICTs to incorporate them into their pedagogy. Drigas and Charami (2014:8) account for the resistance to using digital technologies mentioned by Chinyamurindi and Dlaza (2018:5); they believe that teachers feel threatened by ICTs which, as a result, serve discontinuance of their use. In addition to the threat, Cambell and Kapp (2020:22) also found that schools have interactive whiteboards, but teachers were unfamiliar with this "expensive piece of equipment" (Campbell & Kapp, 2020:22).

Being accustomed to technology is an essential part of educational delivery in modern education. Teachers, therefore, need to utilise the digital resources available as the term ICTs is becoming more popular, according to Chinyamurindi and Dlaza (2018:5). Chinyamurindi and Dlaza (2018:6) found that teachers may not be willing to use technology in their teaching. Additionally, Dlamini and Mbatha (2018:28) agree but add that confidence plays a crucial role in teachers' willingness to adopt and integrate educational ICTs. Additionally, Dlamini and Mbatha (2018:28) found that teachers cannot utilise digital resources, as Chinyamurindi and Dlaza (2018:4) stated, because principals employ stringent regulations to protect digital resources, which makes continued access difficult. This could be a causative factor to low adoption of educational technologies.

SchoolNet is a catalyst and enabler of positive change in the education system. SchoolNet aims to harness the power of learning technologies to develop communities of lifelong

learners, sustainably improve teaching and learning, and alter the culture around knowledge acquisition. Schoolnet has implemented ICTs in South African schools and provided staff development training workshops and ICT support to schools (Mdlongwa, 2008:2-3). Recently, in 2019, the Department of Basic Education (DBE) confirmed a strategy for the organisation of digital Learner Teacher Support Material (LTSM) through ICT (PMG, 2020). The timeline for the implementation of this strategy was from 2019 to 2024, and the plan includes the following:

> Under the amended Universal Service and Access Obligations (USAO) of 2014, the Independent Communication Authority of South Africa (ICASA) had requested network operators to provide 5 250 public schools with Internet connectivity and ICT equipment as part of their obligations. The three major network operators -- Vodacom, MTN, and Cell C had allocated 1 500 public schools, while Neotel/Liquid Telecoms had allocated 750 schools (PMG, 2020).

The network operators took a step further and also provided 4 697 data projectors and servers, 9 394 laptops, and 112 728 tablets to 4 697 schools throughout all provinces (PMG, 2020). As suggested by Tsitsia, Safo, Doyi, and Kabbah (2021:24) professional development units should systemise periodic ICT enhanced courses to equip individuals with the necessary competencies to integrate ICTs in teaching and learning. Thus, the WCED 2020-2021 annual report says that it provided 12 new courses during the national lockdown in 2020, and this training provided teachers with digital and online tools for remote teaching.

2.2.2 ICT-based teaching methods

During the Covid-19 pandemic, South African schools were closed, many learners had access to learning materials, and some were left without any educational support (Dean, Pascoe & le Roux, 2021:7). Emerging technologies can assist teachers to (re)design their pedagogy to enhance the teaching and learning experiences (Kostaris, Sergis, Sampson, Giannakos, Pelliccione, 2017:271). However, there are different teaching methodologies due to the constant transformation in human behaviour and the way humans think and develop technologies (Saxena & Hans, 2015:189). According to Wang (2008:418), ICTs can manage the model and development of Web-based learning environments, facilitate online classes, or evaluate and choose suitable tools for contexts. It can offer great opportunities in developing countries to enhance teaching and learning processes in both phases of content and pedagogy (Chirwa, 2018:13).

To effectively teach only, teachers require specific skills, including asking questions, sharing information, creating connections – community of practice, offering constructive feedback, and facilitating online discussions (Wang, 2008:416).

2.2.2.1 Reading software

Studies conducted in Africa have conveyed possible teaching strategies for reading, which are the following: Graphogame, ABRACADABRA, and Reading Races, which are starting to emerge as software/e-learning applications for teaching in South Africa (Dean et al., 2021:6).

1) Graphogame

GraphoGame is a technology-enhanced learning environment that improves reading in children who struggle in the early stages of reading and spelling. The usefulness of this programme was tested with children with low reading ability, and the impacts on reading skills, spelling, and phonology awareness were examined. Overall, it was discovered that GraphoGame increased spelling and phonological awareness significantly. However, reading was not improved significantly, contrary to expectations (Carvalhais, Limpo, Richardson & Castro, 2020:26-30). This technologically improved application is designed to help Portuguese pupils learn to read. GraphoGame assisted struggling readers to understand some of the difficulties of the Portuguese language. Despite being a promising technique for assisting literacy development in Portuguese, further research is needed to increase its validity. It would be critical to undertake further randomised controlled trials with bigger samples and to have them adopted at a national level to involve private and public schools as well as learners from various socioeconomic backgrounds (Carvalhais, Limpo, Richardson & Castro, 2020:26-30).

2) ABRACADABRA

ABRACADABRA (ABRA) is a free Web-based literacy programme for instructors, pre-literate and beginning reader pupils, and parents (Sha & Savage, 2020:8). It is an evidence-based and proven multimedia programme which was utilised to assist teachers with effective pedagogical techniques for learners' literacy development in English language classes (Abrami, Wade, Lysenko, Marsh & Gioko, 2016:964). The Centre for the Study of Learning and Performance at Concordia University created ABRA. The programme offers a highly interactive and well-balanced reading curriculum with a wide range of interesting exercises and digital stories for pupils. ABRA comprises visually engaging activities targeting phonological awareness, decoding, word reading, fluency, comprehension, and writing. Most of the tasks have increasing task complexity, and all tasks are related to 21 stories. ABRA offers feedback to learners, and multilevel prompts are used in activities to assist learners in providing proper responses. Correct answers are acknowledged with confirmation responses (e.g., “Cat. That is the word!”) followed by compliments (e.g., “Awesome Job!”) on the learner’s performance (Sha & Savage, 2020:8).

3) Reading Races

The programme permits and encourages learners to listen to a human voice model that shows how to read and listens to learners while they read independently. Throughout the intervention, as the participant engaged with reading practice passages, the computer software provides support for unfamiliar words (e.g., reading the word), prompting the learner to click on the unknown word or to continue reading when a learner clicked on the unknown word or when there was a three-second pause (Barber, Cartledge, Council III, Konrad, Gardner & Telesman 2018:210).

2.2.2.2 Augmented Reality

Another ICT-based teaching method is Augmented Reality (AR) which is a technology that is promptly on the rise, and we need to take the opportunity to utilise this as an educational resource to develop our education sector, particularly in learning English (Jamrus & Razali, 2019:734). Factors to consider before applying AR in teaching according to Jamrus and Razali (2019:734) is to investigate teachers' level of readiness, acceptance, and knowledge. Isnani (2019:249) says that English teachers need to recognise and understand the role of ICTs before they can utilise them optimally.

On the other hand, Isnani (2019:250) says that English teachers first need to recognise and understand the role of ICTs before they can utilise them optimally. Being accustomed to ICTs is often a problem due to a lack of resources, as mentioned by participants in the pilot study, as well as teachers' perceptions and unwillingness to adapt to the technological era (Kalra, 2018:130). According to Kalra's (2018:129) findings, it is often more experienced than novice teachers who are hesitant to use technology. This finding is like Chinyamurindi and Dlaza's (2018:4) findings that teachers resist using technology and view it as impracticable and time-consuming.

Nonetheless, Kalra (2018:128) found that novice English teachers are more aware and have a positive attitude toward using ICTs in the English language classroom, although this cannot be generalised because the study was conducted at one school only.

2.2.2.3 Learning management systems

A Learning Management System (LMS) provides a very authentic and structured virtual learning experience (Chaubey & Bhattacharya, 2015:161) by handling course creation, delivery, management, tracking, reporting, and evaluation of online learning materials. This software seamlessly integrates instructional components with the swiftly advancing technology of virtual environments. The LMS software streamlines the process of education through user registration, course monitoring, learner data collection, and report management (Mershad & Wakim, 2018:23). Chaubey and Bhattacharya (2015:161) add that without an

LMS, it would be extremely difficult to plan, implement, and deliver instruction and training effectively.

Though the LMS is a Web-based system, its use is not limited to online classes alone. It also improves and integrates into hybrid and Web-enhanced teaching and learning environments (Chaubey & Bhattacharya, 2015:161). Education institutions benefit by implementing and utilising an LMS within their education system, such as centralised learning, time reduction, cost reduction, and tracking and reporting features (Mershad & Wakim, 2018:23).

Ghaskil and Boukhelouf (2022:259-260) found that teachers' leading platforms and applications to deliver online lectures are Google Classroom, personal websites, Modular Object-oriented Dynamic Learning Environment (Moodle), Zoom, and Google Meet. However, the motivations for using specific LMS and ICT tools varies among their participant teachers, and some reported negative attitudes towards certain tools, citing inefficiency and a lack of understanding of how they function. In Ghaskil and Boukhelouf's (2022:259-260) findings, all participant teachers reported being able to upload a lesson to their website, 40 participant teachers reported being able to use data shows appropriately, 51 participant teachers were unable to use Moodle, 30 participant teachers reported mastering the use of Google Meet and Zoom, and 20 participant teachers reported being able to design lessons effectively on Google Classroom.

2.3 Benefits and challenges of the use of ICTs

This section outlines the benefits of ICT use in education and in the augmentation of the reading experience to encourage teachers to pay close attention to the integration of this technology in their classrooms (Henderson, 2020:52). As referred to above, Sathish, Thangajesu, Sornaganesh, and Sudha (2020:92) state that ICTs have advantages and disadvantages. Nicolaou, Matsiola, and Kalliris (2019:13) found that utilising ICTs in the classroom can spark motivation and stimulate perceptual skills. Saravanakumar (2018:718) affirms that a learner can attain any type of skill with the use of technology. Therefore, using ICTs is conducive to enhancing the comprehensive quality of teachers' pedagogy. Thus, ICTs allow for multiple teaching methods.

Consistent with the benefits of the use of ICTs, teachers can use virtual lesson plans, grading software, and assessments online to save time (Henderson, 2020:53). Mahlo (2020) researched the capabilities necessary for effective ICT integration at two schools in the Western Cape and found that the participants agreed that the use of ICTs enhanced efficiency and saved time. Mahlo's (2020:30) interview example discloses that participants use PowerPoint slides prepared in advance instead of the chalkboard routine. This comment resonates with Yunus, Nordin, Salehi, Sun, and Embi’s (2013:126) findings that ICT tools are

advantageous as they meet teachers' reading lesson objectives. These researchers conducted a study on the pros and cons of using ICTs in teaching English as a Second Language reading and writing. The qualitative research and semi-structured interviews claim that ICTs make lessons easier to teach in general. Mahlo (2020:113) agrees that teachers spend less time and effort generating teaching resources.

Some factors obstruct ICT integration, as indicated by Ozdemir (2017:506). Ozdemir (2017:506) shows that interactive teaching allows for a higher emotional quotient (EQ), whereas technology cannot comprehend learners' feelings. Consequently, students are easily distracted by multimedia courseware instead of focusing on the content. However, Henderson (2020:53) argues that teachers can use applications in their teaching as it keeps students more engaged.

One participant asked whether there is an actual need for using ICTs when non-ICT-based lessons could do the same for her as a teacher (Yunus et al., 2013:126). It emphasises the limitations and challenges of technological integration into education systems (Henderson, 2020:52). Blanchet et al. (2022:36) add that their participant teachers reported facing challenges with using videoconferencing for reading comprehension sessions as 73.33% of teachers felt physically and mentally exhausted after these sessions. This was possibly due to the prolonged direct eye contact and intense concentration required during the meetings. There were also issues with the size and proximity of participants' images on the screen and camera and microphone problems. In addition, more than half of the female teachers (66.66%) reported that their responsibilities and lack of planning hindered their ability to use videoconferencing effectively, and their inappropriate use of the video camera impacted their impression of others.

Students are not acquiring the step-by-step process, which the Western Cape Education Department (WCED, 2020) has mentioned, and we will further elaborate on it in subsequent sections of this document. They are only introduced to end products created with the use of ICTs, for example, when notes are on a PowerPoint slideshow or printed out for self-study. Mahlo (2020:89) found that teachers prepare all lessons in advance. Ozdemir (2017:513) affirms that ICTs can lead to a "waste of time" when teachers spend too much time on presentations to capture the learners' attention instead of investing time in transferring the knowledge. Another stumbling block for teachers using ICTs would be maintaining classroom management, as learners "get too excited" when ICTs are utilised (Yunus et al., 2013:128). Not being accustomed to technologies is a possible cause for the excitement. Ozdemir (2017:514) found that learners often lack access to resources which causes some learners to have more knowledge than others, which creates an imbalance. Additionally, Henderson (2020:55) found that in most cases, ICTs were constrained for teachers and learners as they

had to share resources with other teachers. Of the four teachers who had access to ICTs surveyed, 26.66% reported that they and their students had limited access to the Internet due to a lack of resources such as computers or software. However, the majority of teachers (73.33%) had the necessary technology and access to mobile devices like smartphones and laptops (Blanchet et al., 2022:35). According to Henderson (2020:53), inaccessibility can be a result of the inadequate organisation of resources, outdated substandard hardware, or software not suitable for teaching. The inaccessibility is not due to the non-availability of ICT materials within the school (Henderson, 2020:53). In a briefing, the Parliamentary Monitoring Group (PMG) (2020) expressed concern for ICT equipment gathering dust at district offices as they were never distributed to schools. Another major concern for the PMG (2020) is theft and break-ins, which occurred days after receiving the equipment. Thus, they maintain that the Department of Basic Education's security measures are questionable.

Overall, Blanchet et al. (2022:37) found that teachers and students at the University of Souk Ahras experienced difficulties using videoconferencing and incorporating reading comprehension as material. Blanchet et al. (2022:37) recommend that online learning in general, and videoconferencing specifically, are not conducive to teaching reading. In addition to these challenges, Ghaskil and Boukhelouf (2022:260-261) conducted an interpretive analysis of their data and found that several challenges hinder the adoption and effective use of ICTs in education. These challenges include a lack of training and skills among teachers, limited availability of ICT tools and equipped language laboratories, poor Internet infrastructure, and learners' lack of readiness and affordability to access online lessons. According to Ghaskil and Boukhelouf (2022:261), teachers who participated in their study identified several obstacles to using ICTs in the English department. These included a lack of training and support from their institution and students' limited access to technology due to financial constraints and lack of readiness. The teachers emphasised that Batna 2 University needs to provide better support and training to overcome these barriers. Additionally, the reliability of the Internet was identified as a challenge that could affect the use of certain ICT devices.

Using ICTs in education can enhance the comprehensive quality of teachers' pedagogy, increase motivation and stimulation of perceptual skills, and save time for teachers. However, ICTs also have limitations and challenges, including the inability to comprehend students' emotions, the potential for distraction, and the need for teacher training and preparation. Additionally, learners may not learn the step-by-step reading process and may only be introduced to end products created by using ICTs. Overall, teachers must consider the pros and cons of ICT use and find the right balance in their classrooms.

2.4 Reading

Reading denotes obtaining the necessary information from a text as efficiently as possible. Reading is an interactive process that goes beyond passive decoding; it includes word recognition, prediction, anticipation, inference, hypothesis-making, confirmation, revision, and reconfirmation (Kuronboyevna, Ravshanovna & Kizi, 2018:22). It is an activity used for pleasure and information and to be a successful reader, one must foster comprehension and know reading skills (Kaya, 2015:38). On the contrary, in a selected South African school, it was found that most learners were not using strategies to read at all (Rule, 2017). A solution to this is that teachers should implement these strategies combined with normal language activities to enhance linguistic proficiency simultaneously (Cekiso & Madikiza, 2014:5). Another solution proposed by Chaka and Booi-Ncetani (2015:6) is that reading lessons should be integrated into the secondary school's weekly mainstream Grade 10 English classes to familiarize learners to reading as a habitual practice aimed enhancing their reading comprehension. Van Staden and Bosker (2014:7) further add that teachers' instruction in reading comprehension skills and strategies demonstrates that such skills are not acquired through incidental learning but must be taught as an identifiable learning outcome. This is necessary because reading cannot be taught as a one-time activity but must be taught as a continuous activity in which learners must be immersed (Chaka & Booi-Ncetani, 2015:6). To elucidate the quandaries teachers and learners face, we need to have a sound understanding of what reading is and what happens during the reading process (Kuronboyevna et al., 2018:22).

The theory of reading has developed in three stages, namely, the bottom-up approach, the top-down approach, also known as the psycholinguistic approach, and the interactive approach to reading. Firstly, the bottom-up approach involves reconstructing the writer's intended meaning by understanding the words and constructing the meaning for the written content from the smallest textual elements at the "bottom" to the largest textual elements at the "top". The central philosophy fundamental to the bottom-up approach is that reading signifies a sequence of written codes into their aural counterparts to gain meaning. Furthermore, the bottom-up approach deliberates reading as a sequence of decoding written codes using a linear method, whilst disregarding various other contextual factors that can influence the meaning of a text. This approach over-accentuates the text as the nucleus of the reading process and fails to notice the reader's active role in the reading process. Secondly, the psycholinguistic approach to reading disputes decoding the coded text; it states that the reader might review his/her inferences by sampling the text again. Thus, reading is not a decoding process but merely a method of restructuring meaning. Therefore, it emphasises the reader’s role in the reading process because, besides being an active participant, his/her

previous experience and knowledge plays a significant role in reading as predictions aid the process. The transference from the bottom-up to the psycholinguistic approach is theoretically from one margin to the other. Thirdly, according to the interactive approach, the reading process is interactive instead of just active. Throughout the reading, the reader creates a personal analysis of the text, whilst constructing an interaction between the text and the reader. The interactive approach to reading, integrating both bottom-up processes such as word recognition and top-down processes involving prior knowledge and context, emerges as a more comprehensive and effective method, fostering a nuanced understanding of textual content (Kuronboyevna et al., 2018:23-24).

This perspective is deemed superior to both bottom-up and top-down approaches due to its incorporation of diverse perceptions of reading. Furthermore, considering the three-stage activity involved in the reading process, encompassing pre-reading, reading, and post-reading, as outlined by the Department of Basic Education (2012:22), the interactive approach aligns with and enriches these stages, offering a more holistic and nuanced approach to decoding and understanding texts.

Teachers and parents can use various teaching methods to help learners process texts. Information on the Internet is readily available to teachers in electronic format and provides the learner with the opportunity to read and reread the text (Castellani & Jeffs, 2001:65). This is emphasised by the Department of Basic Education's (2012:2) CAPS document on the three-process reading technique: Pre-reading involves presenting the text to the learner and activates previous knowledge, reading includes making meaning and understanding the text (actively making sense of the text as a whole), and post-reading allows learners to understand and respond to the whole text.

2.4.1 The WCED’s reading strategies

As mentioned in Chapter 1 (1.1), the WCED has released new intervention strategies for teaching reading. Which are summarised in 6 pillars that encompasses learner support, teaching materials, professional development, research, advocacy, and parental involvement, all contributing to enriched educational experiences.

Brian Schreuder, WCED Superintendent General, stated in the Western Cape Reading Strategy 2020-2025 that the goal of the Western Cape education system is to provide quality education for every child and to focus on the essentials of reading and language proficiency at an early age. He emphasised the importance of language as the foundation for all learning and said that by ensuring all learners can read and write at the appropriate levels, fewer learners would drop out of school, and more would be able to complete their education and pursue further study or career opportunities. The reading strategy seeks to reinforce

established language, assisting educators in comprehending and addressing their learners' language development requirements (WCED, 2020:2).

In addition to Brian Schreuder's statement, Dr Peter Beets, Deputy Director General, also stated in the Western Cape Reading Strategy 2020-2025 that reading skills are vital for success in schools as they allow learners to access the full curriculum and improve their communication and language skills. He emphasised the importance of reading for enjoyment and imagination and noted that the 21st century brings new reading modes, such as reading on mobile devices or interacting with multimedia content online. He emphasised the need to support teachers and parents in helping students read at appropriate levels of fluency, accuracy, prosody, and comprehension and said that the reading strategy provides guidance on implementation, pedagogy, and continuity and progression in teaching reading skills from Grades R to 9. Additionally, he stated that the goal of the strategy is to improve reading with comprehension to optimise every learner's life chances (WCED, 2020:3).

The Western Cape Reading Strategy 2020-2025 was developed in response to the low levels of language skills among students in the Western Cape, which contributes to high levels of failure and dropout. The strategy aims to improve reading and reading comprehension and is informed by national policies, strategies, and guidelines for language education. Its purpose is to support quality learning and teaching in all languages, promote additive bilingualism, and help students achieve a conversational level of an African language. It is linked to the strategic goals of the WCED and is intended to improve literacy in all schools. The strategy was developed through consultations with key stakeholders in education and is based on understanding how children learn and the need to address diverse learning contexts (WCED, 2020:4).

The six pillars (WCED, 2020):

Pillar 1: Learner support

Educators can use various strategies to enhance student learning, including customising lessons, utilising different teaching methods, promoting collaboration, catering to different learning styles, adjusting pace, and offering tailored support for students with learning needs. Gifted learners should also be challenged and extended, and the "buddy system" can pair able learners with those who are hearing-impaired or visually impaired. Providing all learners with the necessary support is important to ensure optimal learning.

Pillar 2: Learning and teaching support material

Each classroom should be equipped with necessary resources, including key documents like Curriculum and Assessment Policy Statements and Language in Education Policies. Home

Language teachers benefit from additional materials, such as language textbooks, approved texts, and diverse literary genres like novels, dramas, and poetry. Supplementary resources like dictionaries, audio/visual aids, and media materials like newspapers and magazines further enhance the learning environment, ensuring a comprehensive and enriched educational experience.

Pillar 3: Teacher professional development

Teacher professional development is crucial to ensuring that teachers can provide the best education possible to their students. Various strategies can be employed to ensure that all learners can learn, including Cape Teaching and Leadership Institute (CTLI) courses which can be accessed online; cluster workshops that focus on teaching practice and methodology, interventions, and LTSM; and online courses through the Centre for Extended Learning (CEL) platform which is a digital platform designed for collaborative online learning and educational activities. Professional learning communities, consisting of small groups of teachers in the same geographical area and facilitated by a lead teacher, can also be a helpful resource for professional development. In addition to these broader strategies, teacher professional development workshops should prioritise targeted areas like instructing reading comprehension, employing technology for writing instruction, evaluating spoken presentations, guiding novice teachers in designing exams, teaching non-native speakers in language classrooms, incorporating grammar instruction, and maximising the utility of textbooks. Including this teacher professional development workshop as an integral component of the comprehensive teacher development approach is crucial for fostering ongoing growth and preventing professional stagnation among educators. This training should be guided by data and tailored to address distinct clusters of teachers. Moreover, all endeavours in professional development will be subject to monitoring and assessment (WCED, 2020:13).

Pillar 4: Research

The research will be a key component of the reading strategy. All interventions will be based on thorough research, and the impact of new interventions will be carefully studied. The 2016 PIRLS results showed that 78% of learners nationally and 55% in the Western Cape cannot read for meaning by the age of 10 years (WCED, 2020:14).

Table 2.1 Systemic tests (adapted from WCED, 2020:14)

GRADE 9 LANGUAGE RESULTS 2013 - 2019																	
AREAS TESTED	No. of Learners 2019	Pass %								Average %							
		2013	2014	2015	2016	2017	2018	2019	Diff 19/18	2013	2014	2015	2016	2017	2018	2019	Diff 19/18
Reading and Viewing	70 551	81.0	80.2	88.6	89.7	91.5	90.9	60.5	-30.4	65.0	64.4	71.5	72.5	72.9	73.7	54.7	-19.0
Writing	70 551	27.1	22.6	23.1	26.0	21.4	25.1	51.2	26.1	36.6	31.8	31.0	34.9	32.2	33.1	48.7	15.6
Thinking & Reasoning	70 551	32.1	26.5	33.8	39.3	30.9	40.5			38.9	35.6	42.5	45.5	42.0	43.9		
Language Structure and Use	70 551	44.1	42.2	51.0	53.4	49.8	61.1	28.7	-32.4	42.9	39.9	53.7	55.5	52.8	61.1	33.6	-27.5
PROVINCE	70 551	47.8	47.6	53.0	55.1	53.0	52.6	53.6	1.0	50.9	50.3	52.3	52.6	51.3	51.1	51.9	0.8

The data in Table 2.1 show the percentage of learners who passed in reading and viewing from 2013 to 2019. In 2013, 81% of learners passed in this area. From 2014 to 2016, the percentage of learners who passed in reading and viewing fluctuated but remained relatively high with 80.2% in 2014, 88.6% in 2015, and 89.7% in 2016. In 2017, the percentage of learners who passed reading and viewing increased to 91.5%. However, in 2018, the percentage of learners who passed in reading and viewing decreased slightly to 90.9%. In 2019, the percentage of learners who passed in reading and viewing decreased significantly to 60.5%. Overall, the percentage of learners who passed reading and viewing declined from 2018 to 2019. For the WCED, it is important to analyse the data further to understand the reasons for this decline and to determine which steps can be taken to improve performance in this area.

Pillar 5: Advocacy

An effective principal is crucial for a successful language programme and must be responsible for addressing every aspect of the language plan, including demonstrating respect for the unique characteristics and needs of the phase, recognising and acting on specific language challenges, regularly reviewing the school language policy in consultation with stakeholders, and celebrating events such as World Book Day and International Literacy Day. To encourage reading and engage a wide audience, it is crucial to spread the message through various means such as live streaming, social media, radio, email, and informative reading materials.

Pillar 6: Parental involvement

Parental involvement is important for the success of a child's education, and the WCED recognises this. The WCED encourages parents to actively participate in their children's education by asking their children to read, telling stories together, and participating in other reading activities. Another method for parents to assist in promoting reading is by using e-readers, which can provide access to a wide variety of books and other reading materials. Parents can play a crucial role in supporting their children's language development and academic success by engaging in reading activities and encouraging a love of reading at home.

2.5 Teaching reading with ICTs

Online reading is a task that seems fundamental for 21st-century learners (Drigas & Charami, 2014:5). As proposed by Drigas and Charami (2014:5), the effective application of reading strategies is known to increase the reader's understanding. Through digital literacy, teachers can easily allow effective application of reading strategies by acclimatising to the transformation of their role and should therefore gain knowledge of how to use ICT tools (Drigas & Charami, 2014:7). Thus, they recommend that teachers should perceive ICTs as an aid and should not feel intimidated by its presence in the classroom.

Fadel (2022:25-26) carried out an investigation that delved into the viewpoints of English for Specific Purpose (ESP) instructors and learners regarding the influence of ICTs on the enhancement of reading comprehension. The study included administering questionnaires to Pharmacy students at Farhet Abbas University in Algeria and their ESP teachers. The results showed that both groups had positive attitudes towards the use of ICTs in reading comprehension. ESP learners believed that ICTs were important in learning and made reading classes more engaging. The ESP teachers believed that ICTs could make reading more interesting and engaging and help develop students' reading comprehension. Overall, Fadel (2022:26) concluded that ESP teachers should consider implementing ICTs in their classrooms as they can enhance reading comprehension, motivate learners, and foster learner autonomy.

Nemer's (2022:47) survey of reading platform users shows that most respondents are young and female and prefer to read romantic, paranormal, and thriller genres. These respondents also indicated that they use reading platforms primarily for enjoyment and relaxation and prefer print books to e-books. The advantages of reading platforms, such as free access, various genres, and immediate availability, make them popular for reading. E-books have the advantage of convenience and the ability to view comments and perspectives from other readers but may cause visual fatigue due to screen luminance. Piper, Zuilkowski, Kwayumba, and Strigel (2016:212) add that e-readers are ineffective for learning. Whereas Nemer (2022:47) also states that print books are easier for readers to retain information from but can be impractical due to size and cost.

Lin, Lee, Wang, and Lin (2016:54) explore the effects of subtitles and digital note-taking in the multimedia learning environment. It was indicated that the participants understood better with the help of subtitles in multimedia such as movies and videos. However, digital note-taking has no positive effects on learners and relies heavily on their English proficiency.

PowerPoint is a presentation software programme that allows teachers to display coloured texts and images with animation and sounds. Furthermore, it adds audio and visual effects

which are highly attractive to sustain learners' attention (Alkash & Al-Dersi, 2013:4). Alkash and Al-Dersi (2013:14) assume that PowerPoint presentations will improve learning and teaching, although their study's results showed that there was a lack of resources, such as limited projectors to project the PowerPoint presentations. If teachers had access to computers and projectors, they could do many more varied activities which may result in a change of pace and motivate learners (Nyoman, Nitiasih & Sudiana, 2013:9). However, teachers preferred the traditional methods with printed notes and lecture and discussions. Their reasons behind this preference ranged from comfortability to believing that the nature of their subject does not require the use of PowerPoint presentations (Alkash & Al-Dersi, 2013:13).

Nyoman, Nitiasih, and Sudiana (2013:9) explain that the Internet is populated with available ready-made resources, and teachers only need to find them. Nyoman et al. (2013:9) add that ICT-based teaching is convenient for all levels of technological competence, and teachers should start with small tools readily available on the Internet. Furthermore, teachers can download and print reading material online for offline reading. As Nyoman et al. (2013:9) suggest, starting small eliminates the insufficient or lack of resource barriers for teachers and learners as teachers can access the Internet from home or an Internet café and download materials for offline reading (Nyoman et al., 2013:9).

2.6 Curriculum and Assessment Policy Statement (CAPS)

This section compares the English Home Language and English First Additional Language Curriculum and Assessment Policy Statement (CAPS) at the Further Education and Training (FET) level regarding the effectiveness of ICTs on teachers' pedagogy when teaching reading. An assumption is made that there may be differences in the content taught across the two subjects. However, the focus is more on the effectiveness of ICTs on how teachers teach. Therefore, minor differences will not impact the study in a way that changes the focus.

English Home Language (EHL) proficiency reflects mastery of interpersonal communication skills required in social environments and cognitive academic skills required for learning across the curriculum (South Africa. Department of Basic Education, 2011a:8).

English First Additional Language (FAL) assumes that learners do not possess prior knowledge of the language upon starting school. In the initial years of schooling, the focus lies on nurturing learners' capacity to comprehend and engage in spoken communication – fundamental interpretation interpersonal communication abilities. Consequently, learners are expected to attain a moderate proficiency level in both interpersonal and cognitive academic aptitudes in their First Additional Language by the time they reach Grade 10 (South Africa. Department of Basic Education, 2011b:8).

2.6.1 Overview of the reading and viewing skills and content in CAPS

Both the documents below follow the same reading process. However, the FAL guidelines present a more detailed description of what the teacher should focus on, and the EHL guidelines allow the teacher to choose.

The English Home Language policy is the representation of the various steps taken during the reading and viewing process. The first step is to activate prior knowledge and make predictions about the text or image. Reading is the second step, which entails decoding the text or image and constructing meaning. The third step is to reflect on the text or image and make connections to one's own life and experiences (South Africa. Department of Basic Education, 2011a:10).

The English FAL policy desribes the reading process covered in English FAL. The reading process includes understanding of visual materials, the expansion of vocabulary and language usage, sentence composition and the organisation of texts, and characteristics of literary texts (South Africa. Department of Basic Education, 2011a:10). The policy is a good representation of the breadth of knowledge and skills that students are expected to acquire in English FAL. It also highlights the importance of reading and viewing critically, and of developing strong language skills.

2.6.1.1 English Home Language (South Africa. Department of Basic Education, 2011a:10)

Reading and Viewing

Reading process

- Pre-reading
- Reading
- Post-reading

Interpretation of visual texts

Vocabulary development and language use

Sentence structures and the organisation of texts

Features of literary texts

2.6.1.2 English First Additional Language (South Africa. Department of Basic Education, 2011a:10)

Reading and Viewing

Reading process:

- Pre-reading: strategies to prepare learners for reading, e.g. activating background knowledge, predicting, skimming headings
- Reading: close reading of text supported by teacher's questions; development of strategies, e.g. inferencing; focus on word choice, use of language, imagery, etc.
- Post-reading: interpreting the text as a whole using strategies such as synthesising, summarising, comparing and contrasting, inferencing, evaluating, drawing conclusions, expressing opinions

Intensive reading of literary and non-literary text

Extended independent reading and viewing

The English Home Language policy emphasises three stages of reading: activating prior knowledge, decoding, and personal reflection. Meanwhile, the English FAL policy focuses on broad reading skills such as visual text interpretation, vocabulary, sentence structures, and critical thinking. In English FAL, it emphasises broad knowledge acquisition and strong language abilities.

2.6.1.3 Literary texts and genres

Table 2.2: Comparing Literary Texts and Recommended Genres in English Home Language and First Additional Language Policies (South Africa, Department of Basic Education, 2011a:28, 2011b:33).

English Home Language (South Africa. Department of Basic Education, 2011a:28)	**English First Additional Language** (South Africa. Department of Basic Education, 2011b:33)

Literary texts
 	
Recommended genres
 	
The following recommended literary genres are included in the National Literature Catalogue in the CAPS document.
 	
• **Novel**
 	
• **Drama**
 	
• **Poetry**
  ○ Grade 10 – 10 poems
  ○ Grade 11 – 10 poems
  ○ Grade 12 – 12 poems
 	
• **Enrichment**
  ○ Films
  ○ Selected TV series/documentaries
  ○ Radio dramas
  ○ Essays
  ○ Biographies
  ○ Autobiographies
  ○ Folk tales
  ○ Myths and legends
	Literary texts for formal study. A range to be studied over the Grades 10-12
	
	Recommended Genres
	
	Two of the following recommended literary genres as included in the National Literature Catalogue in the CAPS document:
	
	• **Novel**
	
	• **Short stories**
	  ○ (Grades 10 – 6 stories)
	  ○ (Grade 11 – 6 stories)
	  ○ (Grade 12 – 8 stories)
	
	• **Drama**
	
	• **Poetry**
	  ○ (Grade 10 – 6 poems)
	  ○ (Grade 11 – 8 poems)
	  ○ (Grade 12 – 10 poems)
	
	• **Enrichment**
	  ○ Films
	  ○ Selected TV series/documentaries
	  ○ Radio dramas
	  ○ Essays
	  ○ Biographies
	  ○ Autobiographies
	  ○ Folk tales
	  ○ Myths and legends

2.7 Theoretical framework

Theoretical frameworks explored in this study offer illuminating perspectives on phenomena and information on which researchers can base sound pragmatic decision-making (Koehler & Mishra, 2006:1019). Technological Pedagogical Content Knowledge Framework (TPACK) along with Substitution, Augmentation, Modification and Redefinition (SAMR) will be blended as a theoretical lens to understand how technology is a viable resource for teachers which can be used when teaching reading in the EHL classroom.

The blended theoretical lens establishes prescribed categories in the data collection instruments. This lens allows the researcher to narrow down the analysis to phenomena relevant to this study. It eliminates the distraction of extraneous data provided by the data collection instruments. The prescribed categories derived from the theoretical framework will be analysed to uncover themes for the research study.

2.7.1 Technological, Pedagogical, and Content Knowledge (TPACK)

Most 21st-century teaching methodologies rely heavily on learning technologies through real-world contexts (Goradia, 2018:49). According to Graziano et al. (2017:378), TPACK is a diagnostic tool developed as a self-assessment resource to serve a specific institution in its decision-making process. It can be viewed also as a framework for effectively identifying the information teachers require to teach using technology (Koehler, Shin & Mishra 2012).

Knowledge of specific hardware and software is required to enable teachers to grasp the alternatives available and operate them efficiently (technological knowledge) for certain curricular topics (technological content knowledge). Knowledge of the characteristics of technology-rich learning resources is pivotal because it enables teachers to differentiate the qualities and affordances of specific tools when considering pedagogical (technological pedagogical) and domain-specific learning (technological content) goals. Knowledge of how to use technology-rich curricular materials is required for teachers to use ICTs in pedagogically relevant ways to accomplish learning in certain curriculum areas (technological pedagogical content knowledge) (Voogt & McKenney, 2017:70-71). Figure 2.7.1 focuses on the relationships, interactions, affordances, and restrictions that exist between and among content, pedagogy, and technology in this paradigm as successful teaching requires an understanding of content (C), pedagogy (P), and technology (T). This paradigm, however, stresses the dynamic interplay of these three sources of information rather than presenting them as independent bodies of knowledge (Koehler & Mishra, 2006:1025).

In the figure below, the circles of content, pedagogy, and technology intersect to precede four more kinds of interrelated knowledge. Knowing how to utilise technology is not the same as understanding how to teach using technology. Teachers need to use their knowledge of

technology and integrate it with their content and pedagogical knowledge. Koehler and Mishra (2006:1019) contend that a concept-based theoretical framework concerning the interaction between technology and teaching may revolutionise the conceptualisation and practice of teacher education, teacher training, and professional development for teachers.

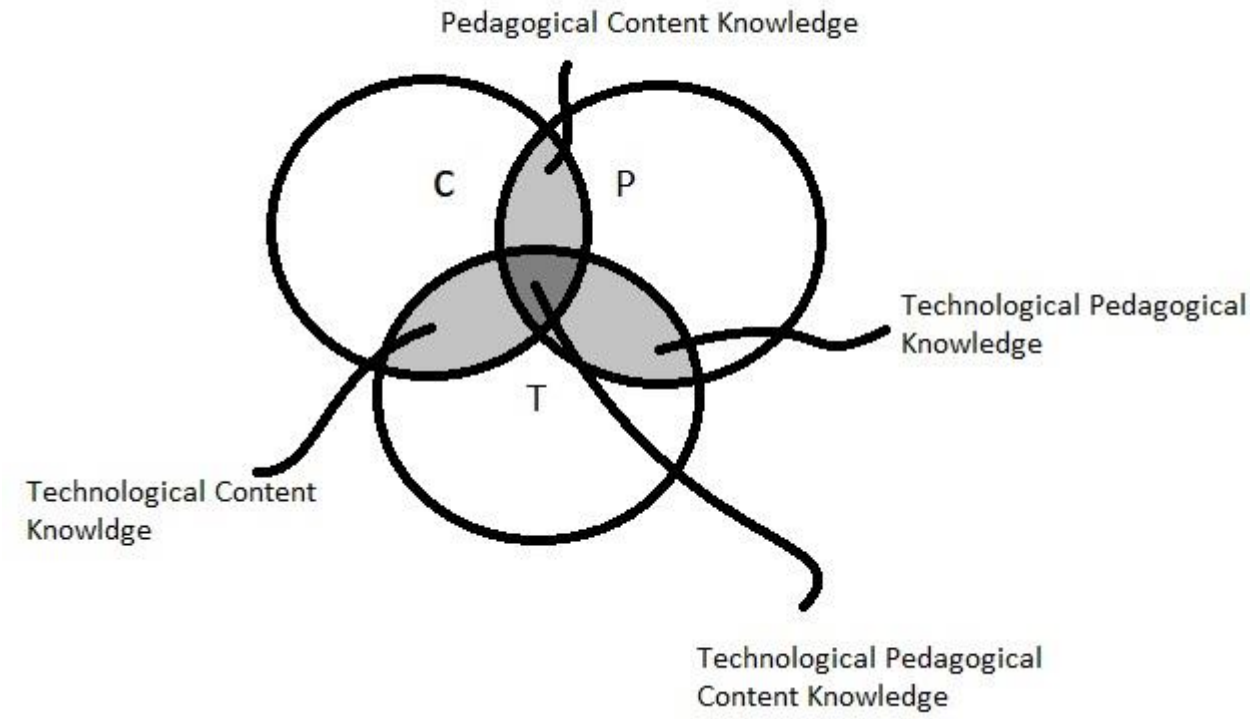


Figure 2.2 TPACK (Adapted from Koehler and Mishra, 2006:1025)

The TPACK theoretical framework describes the source of knowledge for teachers to teach using technology (Voogt et al., 2016:38). However, a study by Chigona (2015:489) in the Western Cape found that, although TPACK would serve as a tool to help teachers, some teachers still refuse to learn about the effective ways in which technology could enhance their pedagogy.

Voogt and McKenney (2017:70) address this from a slightly different angle in arguing that empowering teachers for successful technology integration does not imply that teachers are compelled to be familiar with the TPACK framework but rather that teachers must understand how to construct instructional practices that include technological, content, and pedagogical expertise. Kurt (2019) adds that TPACK may improve learners' understanding of complex concepts and nurture collaboration amongst peers. Additionally, this can alleviate the load for the teacher as well. In contrast, teachers lack the knowledge of how technology may benefit the learner in the classroom context (Kurt, 2019).

2.7.2 Substitution, Augmentation, Modification, and Redefinition (SAMR)

SAMR is used to transform learning experiences to result in advanced levels of achievement for learners (Schrock, 2021). Dr Ruben Puentedura developed the SAMR model in 2006, which categorises four levels of classroom technology integration. It was designed to provide a common language across disciplines as teachers try to customise learning and assist pupils in visualising complicated topics (Power School, 2021). It illustrates an ICT-led pedagogy as the use of technology as a direct substitute tool with no modification (Substitute), a direct substitute tool with functional enhancements (Augmentation), a tool for learning major job re-design (Modification), or a tool for the production of previously impossible tasks (Redefinition). All of these levels are dependent on the use of integration expertise and the availability of tools (Jude, Kajura & Birevu 2014:106).

In the SAMR framework, substitution and augmentation are strategies to replace and enhance current tools that educators might employ in learning. Modification and Redefinition alternatively transform the learning activity in a way that would be unachievable without the use of technology (Zimmerman, 2018).

The teacher's goal is to create a simple SAMR ladder linked to Bloom's Taxonomy levels, and as the activity progresses through the taxonomy, it also progresses through the SAMR levels. The three lower levels of Bloom's Taxonomy (Remember, Understand, and Apply) are associated with the two enhancement levels of SAMR (Substitution and Augmentation), whereas the two transformation levels of SAMR (Modification and Redefinition) are associated with the three upper levels of Bloom's Taxonomy (Analyse, Evaluate, and Create). Within each category, a similar classification occurs, for example, Remember-type tasks are largely connected with S-level technology uses and Understand-type tasks are related to S- or A-level technology uses (Puentedura, 2014).

There is no evidence to support the notion that augmenting, modifying, or redefining a task leads to improved learner outcomes. This model has been tried and tested by academics throughout the education field and yielded different results in different contexts (Savignano, 2017:116).

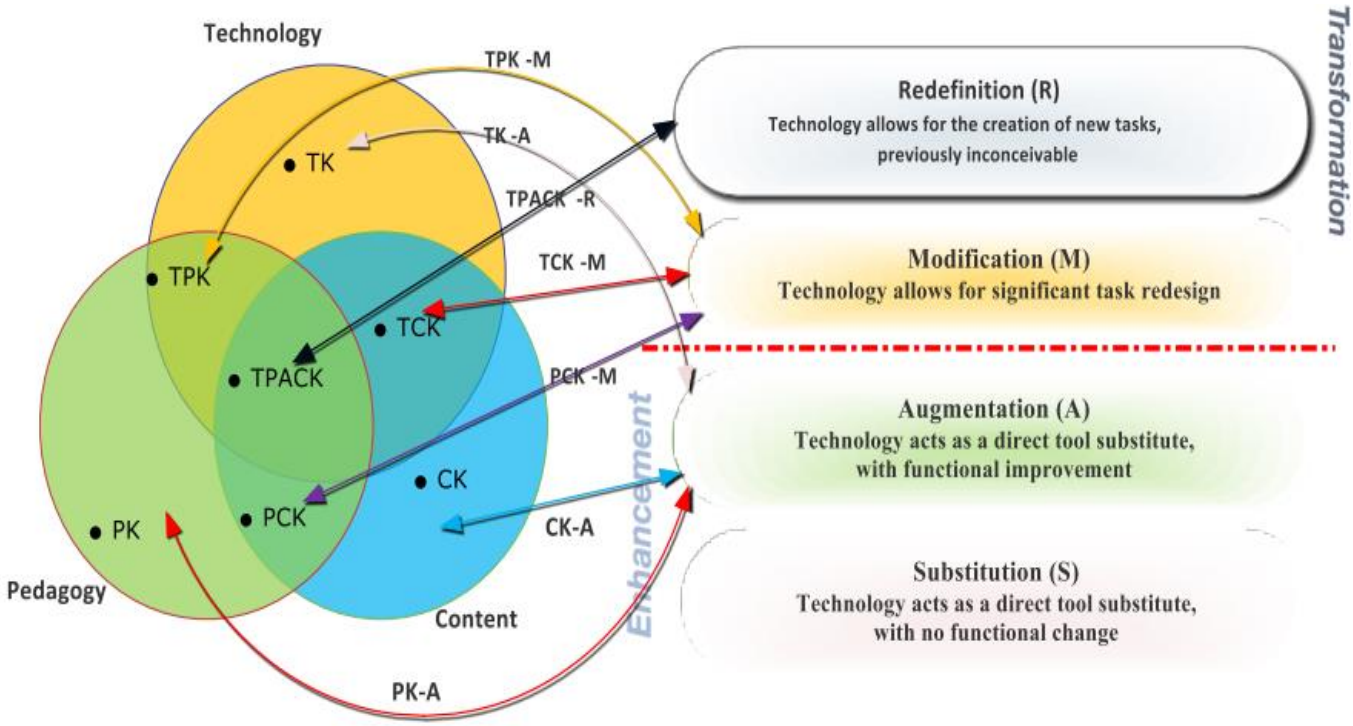


Figure 2.3 A comparison between TPACK and SAMR (Adapted from Kihoza et al., 2016: 112)

The figure above combines TPACK and SAMR to allow teachers to effectively integrate technology by using TPACK to identify the knowledge and skills they require and then use SAMR to evaluate the level of technology integration in the lesson.

Technological Pedagogical Knowledge and Modification (TPK-M) reinforces TK, TPK, and TCK. Traditional classroom assignments may be completed utilising computer technology with some adjustments. For example, teachers can use Google Docs to share and collaborate on a document instead of drafting a report and sending it to others via email. Furthermore, Technological Knowledge and Augmentation (TK-A) is connected to TK, TPK, and TCK. Augmentation recognises new technology that expands established processes. A typical PowerPoint presentation, for example, might be embedded with a sound and GIF (moving picture) to explain a term and increase understanding. Furthermore, Technological Content Knowledge and Modification (TCK-M) is associated with CK, TCK, and PCK. The modification may examine the constraints caused by a lack of TCK and recommend a different approach. For example, if teachers could grade learners' assignments using a pen and pencil, they might start receiving softcopies and marking with comments using Microsoft Word's features. Additionally, Pedagogical Content Knowledge and Modification (PCK-M) is compatible with CK, TCK, and PCK.

Teachers cannot upload and download resources using content learning management systems (LMS). In that case, the systems might be built to allow teachers to share knowledge, experiences, and resources with learners. Transformation might be accomplished by

evaluating the TCK to eliminate the constraint and using the commenting service in Google Docs, for example, to discuss and exchange comments on a specific assignment. Content Knowledge and Augmentation (CK-A) supports TCK and PCK. Augmentation implies that new technology may be utilised to supplement previous technological techniques to boost efficiency. For example, teachers and students could only create documents in Microsoft Word, save them manually, and share them with others using a flash drive; TCK can be enhanced to allow teachers to use Google Docs to take advantage of extra online services such as auto-saving document changes, auto-syncing, and auto sharing in the cloud. Finally, Technological, Pedagogical, and Content Knowledge and Redefinition (TPACK-R) support all TPACK components.

Regarding TPACK, Redefinition implies an overhaul, for example, transitioning from conventional teaching to blended learning, which combines traditional with some online technology-aided learning, and implementing full online courses (e-learning). To generate new tasks and practices, old tasks designed by evaluating TPACK features are reinterpreted using the SAMR features (Kihoza, Zlotnikova, Bada & Kalegele, 2016:112). These researchers excluded substitution in their correlation and did not account for it.

TPACK will be used to structure and analyse the interview questions and identify what to look for when doing observations. Firstly, the researcher acknowledges Shulman's (1987:3) idea that teachers plan lessons based on how learners best learn the curriculum. The researcher will regard the teacher as the "body of knowledge" (Shulman, 1987:4) and consider the Pedagogical Content Knowledge (PCK) as relevant as teachers are required to simplify or abridge the curriculum to learners. Secondly, the researcher acknowledges Mishra and Koehler's (2006) notion that TPACK represents a body of knowledge that is fundamental in teaching with ICTs.

Kurt (2019) states that TPACK allows researchers to adjust its framework to various teaching contexts. TPACK will be translated into the questionnaire by focusing on the technological tools that teachers use in their classrooms. Additionally, it will be linked to how teachers decipher the curriculum to learners, with and without technology. The researcher, however, will not be asking direct questions about TPACK but questions that will help determine the answers to the research questions by using this theoretical framework. This analysis will assist the researcher in understanding how teachers use technology in their pedagogy and how they understand the concept in an educational setting.

For data analysis, the researcher aims to determine a correspondence between PCK and TPACK teaching methods and analyse the relationship between teachers and technological pedagogy. The researcher will attempt to identify integrated TPACK components by

incorporating a thematic analysis (Tzavara, Komis & Karsenti, 2018:85). Additionally, it will be used as the foundation for data coding and will subsequently be used to analyse all data.

Finally, the SAMR model will be used to analyse the outcomes of the observations made in the class. SAMR is more advantageous in reflecting on the capability to utilise a particular technology to achieve an educational objective (Hilton, 2016:71). Thus, it will help the researcher compose recommendations based on how it may benefit learners as Hilton's (2016:71) participants argued that the SAMR model is more student-centred. Accentuating the focus of this research, teachers using technology, TPACK will mainly be used as it focuses on how teachers teach reading using technology (Voogt et al., 2016:38).

The integration of ICTs in English language teaching is a research area not entirely explored yet (Drigas & Charami, 2014:9), and theoretical concepts, particularly in education, should explain how to apply the ideas to the real world (Koehler & Mishra, 2006:1045). Alkamel and Chouthaiwale (2018:31) articulate that using ICTs in the English classroom plays a vital role in using pedagogy that accommodates modern learning and teaching. Dean, Pascoe, and le Roux (2017:7) suggest that training must be provided to teachers and learners. English unites the world as a global language, and the use of ICTs is responsible for a great deal of this unification (Mafuraga & Moremi, 2017:142).

2.8 Conclusion

Chapter 2 presented the literature relevant to this study; the research is based on using ICTs in learning and teaching. It covers various topics, including digital literacy among South African teachers, ICT-based teaching methods, reading software, benefits, and challenges of using ICTs in education, and teaching reading with ICTs. An overview of the reading and viewing skills and content covered in the CAPS is provided as well.

The research shows that ICTs in learning and teaching have become increasingly widespread in recent years, and many South African schools have embraced these technologies. However, digital literacy levels among teachers vary, and some may need support to integrate ICTs into their teaching practices more effectively. There are various ICT-based teaching methods presented in the literature review available for teachers to employ in their classrooms, including the use of reading software, augmented reality, and learning management systems.

Despite the potential benefits of using ICTs in the English classroom, there are some challenges addressed by researchers. These issues include access to technology, teacher training, and the integration of ICTs into the curriculum. Teachers must be properly trained and supported to integrate ICTs into their classrooms effectively. Thus, the theoretical frameworks – TPACK and SAMR – used for this study can provide useful frameworks for understanding the benefits and challenges of using ICTs in the English classroom. These

frameworks can identify effective strategies for integrating ICTs into teaching reading. TPACK and SAMR can help to guide the development of teacher training programmes and curricular materials that support the effective use of ICTs in the classroom as well.

Based on the literature review, it was discovered that incorporating ICTs in reading instruction can create both advantages and obstacles. The information was derived from researchers who investigated the phenomenon of using ICTs in teaching and teaching reading. These studies found that the use of reading software, augmented reality, and other ICT-based tools can support the teaching of reading. However, teachers must have the necessary skills and support to integrate ICTs into their classrooms effectively. The TPACK and SAMR models provide useful theoretical frameworks for understanding the relationship between technology, pedagogy, and content in the context of ICT use in teaching reading.

The next chapter, the research methodology section of the study, discusses the methods used for the study. The literature review serves as a foundation for this section by providing information on the existing research and informing the research questions and hypotheses that guides the study and the methods used to collect and analyse data. Therefore, the researcher presents qualitative research methods, such as document analysis, interviewing, and observing teachers who teach reading. These methods were used to gain a deeper understanding of how ICTs are used and their effect on teachers' pedagogy.

CHAPTER 3

RESEARCH METHODOLOGY

3.1. Introduction

The previous chapter provides an overview of this research study's current and past debates. This chapter rationalises the purpose of using the selected methodology.

In the first section, the researcher describes the research paradigm underpinning this study and the research approach that guided data collection and analysis. The second section of this chapter focuses on communicating the study's research design. The researcher specifically describes the rationale using a case study as a strategy for the study and why it was chosen. The third part discusses the concerns regarding trustworthiness, which is critical in establishing the validity and authenticity of the findings. Finally, the chapter includes the ethical considerations of this study.

The research methodology is presented and justified in the context of the primary research question: *How does the integration of ICTs in teaching reading at the Grade 10 level affect instructional practices?* Qualitative data collection methods were employed to gather in-depth information about the phenomenon to determine how teachers experience teaching reading, combined with using ICTs. Hence, the researcher used the interpretative research paradigm as it provided the teachers' perspectives on the topic of the study.

Three sources of evidence were used: document analysis, classroom observations, and semi-structured individual interviews. Additionally, the overriding principles of data collection unique to the case study design were followed. These principles primarily involve using multiple sources to converge on a series of findings. In addition, an online case study database comprises the evidence separate from the case study report. Conclusively, evidence connects the questions, the data gathered, and how the findings were recorded (Yin, 2009:83).

The outline of this chapter is exhibited in Figure 3.1. below. This figure illustrates the sequence of the study and projects a visual representation of the procedures followed to obtain the results.

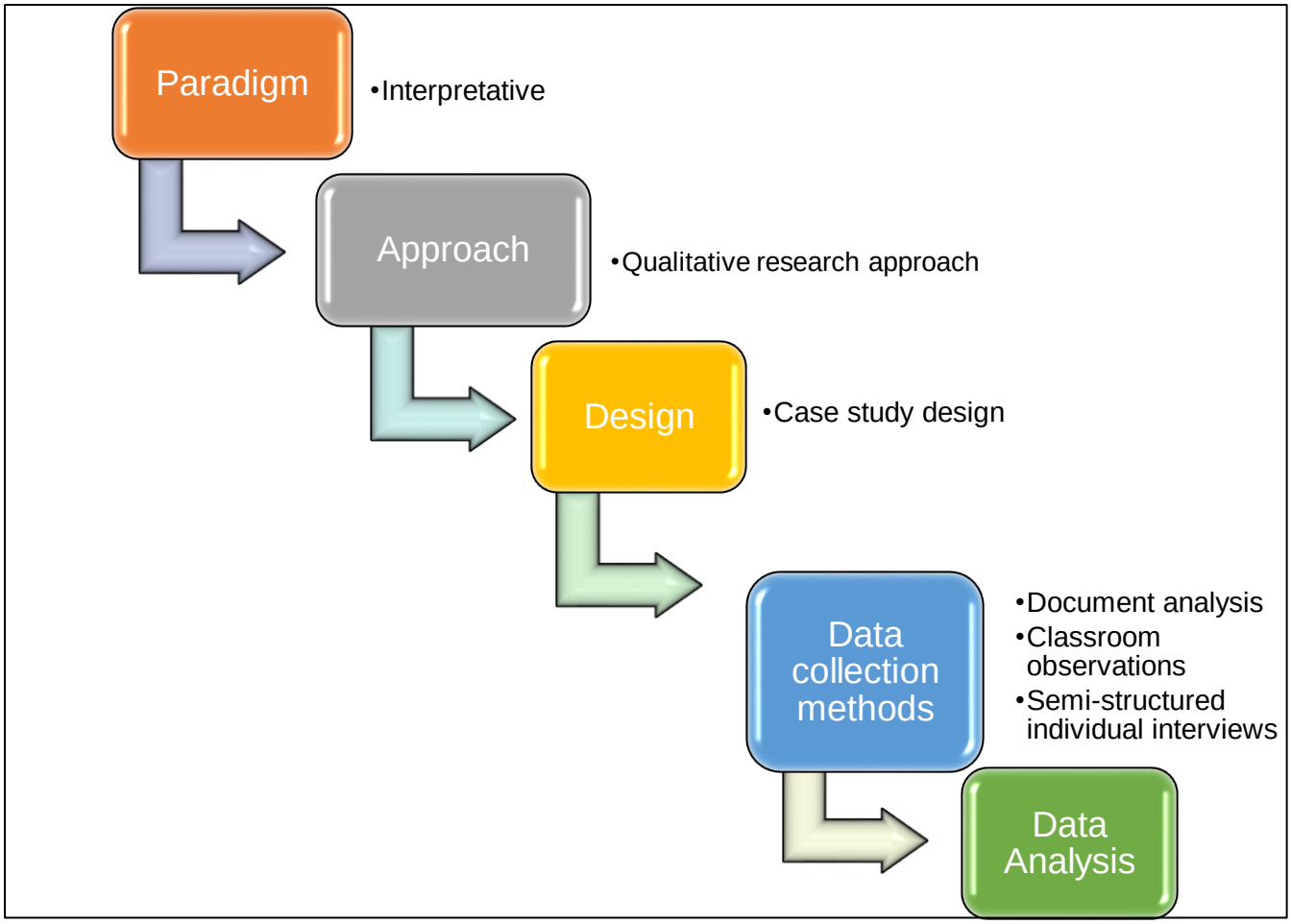


Figure 3.1 Conceptual diagram of this study

3.1.1 Research paradigm

The research was conducted using the lens of an interpretative paradigm which allowed the researcher to reach a consensus based on how teaching reading at the Grade 10 level can be enabled or constrained by using ICTs in the classroom. The researcher maintained this ontology by understanding that these epistemological perspectives contain knowledge that is discovered using the interpretative paradigm.

The interpretative data collection methods allowed the researcher to investigate and reveal interpretations from the perspective of four Grade 10 teachers who participated in the study. Using these techniques, the researcher could define and explain that relationship throughout this research study. Therefore, the researcher needed to gather the perceptions of Grade 10 teachers teaching reading to gain a broad understanding of the "subjective world of human experience" (Gratton & Jones, 2010:28).

Cohen, Manion, and Morrison (2007:21) state that the interpretative paradigm seeks to comprehend the subjective world of human experience. Moreover, they maintain that action is fundamental to the Interpretative paradigm. This action is referred to as intentional

behaviour. One can only understand the intentions of individuals to share experiences when one can discern their intentions. Similarly, Creswell (2009:146) notes that interpretations are inextricably linked to the researcher's histories, circumstances, and prior understandings. He adds that the researcher must identify these interpretations reflexively, especially if they influence the ethical demands of the study.

3.1.2 Research approach

A qualitative research approach was adopted to address the research question to examine how the integration of ICTs in teaching reading at the Grade 10 level impacts instructional practices. According to Mack, Woodsong, Macqueen, Guest, and Namey (2011:1), qualitative research aims to comprehend a specific research problem through the lens of the local population it affects. This view is supported by Creswell (2009:180), who writes that qualitative research occurs in natural settings where human behaviour and events transpire.

By employing a qualitative research approach, the researcher was able to observe teachers' actions in their classroom which, according to Creswell (2009:163-164), is "where participants experience the issue or problem under study." He adds that the information gained is accessible by interviewing participants and observing their behaviour within their natural settings. Thus, it was relevant to the researcher to ensure face-to-face engagement in the natural setting for the duration of the data collection period.

3.2 Case study

An exploratory case study design was conducted to address the primary research question, and qualitative methodologies were used to analyse the data. In opting for an exploratory case study design, the research aimed to delve into a relatively unexplored subject, allowing for an in-depth examination. "A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the phenomenon and context are not evident" (Yin, 2009:13). This design was suitable for this study to gain clarity on the phenomenon because it allowed the researcher to observe what was happening in the EHL classroom concerning teachers' pedagogy when using ICTs in teaching reading.

This case study design was used to get a comprehensive knowledge of a collection of researchable problems at the school and how they relate to Grade 10 English teachers. Gratton and Jones (2010:107) believe that understanding human behaviour requires an examination of its evolution over time and the environment and context in which it occurs.

3.3 Research Methods

The primary aim of this study was to investigate how the integration of ICTs in teaching reading at the Grade 10 level impacts instructional practices. The researcher employed qualitative data collection methods such as document analysis, classroom observations, and semi-

structured individual interviews to provide a more interpretative perspective – observations were done before the interviews to avoid teachers inflating the data by changing their natural way of teaching. Additionally, the researcher recorded the interviews and observations using a smartphone voice recorder to ensure accurate data analysis.

3.3.1 Site selection

The site chosen for this study is a school located in the Southern Suburbs of Cape Town and has been in service for more than 35 years. The school is under-resourced, and one of the contributing factors is that learners come from underprivileged conditions which prohibit them to pay school fees. Even though this school is considered an affluent school, the school is in a poorer area.

All public schools in South Africa are divided into five categories (quintiles) to allocate financial resources (Grant, 2013). The 'poorest' quintile is quintile one, while the 'least poor' quintile is five. The study was conducted at a public school classified as a quintile-four institution (fees-paying). These poverty levels are calculated at a national level based on the community's poverty level surrounding the school and certain infrastructure elements. Each quintile in the country has 20% of all students, but not 20% in each province. Quintiles one, two, and three have been designated no-fee schools, whereas quintiles four and five have been designated fee-paying schools (Grant, 2013). Despite this, the selected site was based in an affluent area, but the school was populated with children from underprivileged communities. According to Grant (2013), however, given the conditions of some institutions, their quintile four and five classifications do not serve them well. The national data utilised to establish their poverty status, for example, does not consider the demography of specific schools. Several schools do not have most of their students from the neighbourhood. These schools teach many learners from families that cannot pay their children's school fees. This socioeconomic circumstance has been a substantial financial strain for some schools.

The researcher gathered data in the natural setting of the participants, where they encountered the issue or problem under investigation. According to Creswell (2009:163), this up-close knowledge gained by observing how they behave and act within their context is a key feature of qualitative research.

The site exhibits a positive and supportive environment for teachers and learners by providing additional resources, despite being technologically under-resourced, and tutors after school or Saturdays. However, external factors such as gangsterism, taxi violence, and general poverty in the surrounding communities cause low attendance rates which lead to poor pass rates and more learners dropping out of school.

The selected site is a government school coordinated by the WCED and equipped with unrestricted Wi-Fi access for staff and learners. Each classroom will be equipped soon with a desktop computer that is Wi-Fi enabled. Providing this equipment forms part of Augmentation and Modification in the SAMR model, as Wahyuni, Mujiyanto, Fitriati, and Rukmini (2019:337) describe it when technology allows for important task redefinition.

This specific site was chosen for its varied use of ICTs and its potential for expansion to other content on the subject, such as listening, speaking, and writing in the teaching of English, which produces opportunities to research the impact of these. Another factor contributing to suitability is that the school has enough participants appropriate for this study.

The researcher conducted the study at the school where he taught since participants are more easily accessible to him, making it more convenient. As confirmed by Gratton and Jones (2010:116), selecting participants is a matter of convenience or access; for example, the researcher may have access to a specific organisation or an educational institution. There are, however, several sampling concerns that are unique to case study designs. The Grade 10 English teachers were accessible to establish a case, even though this raises concern for bias. Yin (2009:13-14) believes that the case study deals with the technically unique situation of having many more variables of interest than data points. As a result, the researcher relied on multiple sources of verification, with data needing to converge through triangulation which was complemented by the prior development of theoretical propositions to guide data collection and analysis, resulting in enhanced benefits.

3.3.2 Participant selection

This researcher used purposive sampling as it was suitable for grouping participants according to preselected criteria appropriate for this study. The sample size was subjected to English teachers who taught at the Grade 10 level. The sample consisted of four teachers selected from the English Department which has a population of six teachers. Data were collected over six months from participants in their natural settings for research to gather information by seeing their behaviour within their context.

There were four EHL teachers, and reading was taught by various teachers with varying degrees of ICT ability, which provided opportunities to collect data from teachers with different technological capabilities and teaching experiences. The research is focused on the Grade 10 level; teachers for Grade 10 were chosen, because this is the entry-level to the FET system.

The Green Paper released a consultative document providing insight into learning and training programmes from the National Qualifications Framework (NQF). Levels two to four, or the equivalent of Grades 10 to 12 in the school system, fall under the umbrella of FET. Within the NQF, the band comes after General Education and Training (GET) and before Higher

Education (HE). After completing the compulsory portion of education at Grade 9 or level one of the NQF, learners enter FET (DoE, 1998:6). The researcher chose Grade 10 specifically as it can be a gateway for research to be done in FET colleges as well.

The advantages of participant selection in qualitative research are (a) exploratory questions which allow the participants to provide answers from their interpretations, which generate answers unanticipated by the researcher, (b) the researcher has the flexibility to stimulate initial participant responses by asking *how* and *why, and* (c) the researcher can engage with participants according to their personalities and styles.

This design allowed the researcher to maintain objectivity and differentiate between knowledge and inference. The gender ratio of male to female participants was 1:3. However, all participants were regarded equally. No distinction was made because of their gender, age, experience, or capacity.

3.4 Data collection

Interpretations stemmed from data collected using secondary data. The secondary data consisted of the document analysis of the CAPS and ATPs, as mentioned in the case study section. Data collected from participants consisted of classroom observations and semi-structured individual interviews over six months. These classroom observations and semi-structured individual interviews were conducted at the selected site. During these activities, the researcher maintained the role of interviewer and was a passive observer.

Multiple sources of data were used (Griffee, 2012:106) which included classroom observations, semi-structured individual interviews, and document analysis. The CAPS document and ATPs informed the researcher regarding the exact dates when the Grade 10 teachers taught reading. These sources provided a first-hand description of what the researcher could expect to happen in the classroom. The Grade 10 teachers who implemented the curriculum directly related to the documents, and their actions either confirmed or refuted the study's hypothesis. The sources were used to triangulate findings and answer the research questions (Cohen et al., 2007:143).

Data set 1: Document analysis

The rationale behind the document analysis was to validate data received from observations and semi-structured individual interviews. The Grades 10 to 12 English Home Language and First Additional Language CAPS were used to analyse the expectations regarding teaching reading skills, specifically how and when to teach them. In addition, the ATP provided by the WCED, including the lesson plans to determine when teachers should teach reading skills, were analysed. The National Professional Teachers' Organisation of South Africa (NAPTOSA)

describes the ATPs as guidelines to help educators as they apply their professional judgment in the best interests of their learners in their settings (Hariram, 2020). The *Professional Development Framework for Digital Learning* revealed strategies for teachers to use technology in their lessons. The framework designed by the DBE provides an overview of TPACK and SAMR for teachers to use as a guideline to employ technology in their pedagogy.

Data set 2: Classroom observations

Classroom observations allowed the researcher to observe participants in their normal settings. This data collection method links to the properties of the qualitative research approach mentioned in section 5.1 above. Classroom observation enabled the researcher to gain detailed evidence and first-hand experience of participants in their normal settings. The unique aspect of observation as a research technique is that it allows the researcher to collect "live data from naturally occurring in social settings" (Louis, Lawrence & Keith, 2007:396). The following section describes how the researcher utilised a pre-ordinate observation strategy with pre-determined categories.

Louis et al. (2007:396) believe that observation can concentrate also on events that occur in a classroom. The researcher conducted four observations per teacher over one semester, one lesson per three-day cycle a week. These observations enabled the researcher to understand ICT-based teaching methods in the English classroom.

The researcher used an observation schedule, attached as Appendix C, to code all the data obtained using the theoretical frameworks. The researcher populated the sheet with data interpreted from the classroom observations. The interpretations meticulously describe the categories of actions presented by the participants under investigation. Consequently, participants were observed with predetermined categories through which the researcher aimed to deduce whether participants ascribed to those codes listed in the observation schedule.

The pre-determined categories allowed the researcher to record data relevant to the study. It narrowed the lens of the observer. Louis et al. (2007:397) advise that going to a site with a pre-planned observation programme is more efficient in terms of time. This programme allowed the researcher to observe participants easily with a pre-conceived hypothesis in which the actions of the participants either confirmed or refuted the hypothesis. The researcher had to monitor teacher and learner engagement in the classroom for over 50 minutes. The duration can be challenging as the classroom has many distractions. However, the prescribed categories kept the observer focused on the educator's actions in light of what the observation schedule probes.

The first two observation elements are based on the general actions of the teacher and learners in the classroom, while the lower six categories describe how participants deliver the reading lesson from the perspective of TPACK. By examining the observation schedule, several points can be observed. Firstly, the themes are distinct and do not overlap. Secondly, each column includes a comment section for any unforeseen actions not accommodated by the pre-determined themes. Thirdly, due to the variety of themes, the researcher had to conduct experimental observations to attain reliability by practising the completion of the schedule to become skilled and consistent in entering the data observed within 50 minutes. The person observed during these experimental observations did not participate in the research. Finally, the researcher used ticks (✓) as an appropriate entry as it sped up the process of selecting the category for each action. To reiterate, the comment section served as a supplementary entry where ticks would not measure any action according to the category.

A potential spectrum extends from the recognition of indisputable facts to the researcher's analysis and assessment of circumstances, which are then recorded as observations (Louis et al., 2007:398). Observing the participants in their normal setting allowed the researcher to observe the intersection of content knowledge with technological knowledge and how participants are optimally integrating this knowledge into a successful pedagogy. Teachers revealed this intersection and how or what they use to deliver content in the classroom. The researcher critically observed learners making use of pens and workbooks, despite the technology being used as an alternative to the "chalk-and-talk" method; the continued use of writing on the board by the teacher; the interplay between traditional lecturing styles and presentation with the use of technology; the space of innovation for the use of technology allowed by CAPS and the ATPs mentioned before; how technology aids teachers in the reading lesson content; the level of interest in this form of blended instruction; and what challenges teachers face when attempting this blended teaching approach.

Similar to what Louis et al. (2007:398) explain regarding observation, it may be a valuable research technique, but it is not without challenges, as this paragraph exposes and resolves. Firstly, the preparation of a structured observation strategy was quite time-consuming, but it proved to be efficient with the data analysis as the categories/themes were established. Secondly, it acts within the researcher's agenda and overlooks certain components such as classroom disruption, loadshedding (governed power outages), time management, teacher readiness, and resources. These unforeseen obstacles were not planned for and do not appear in the observation schedule. The researcher had to reschedule observations on multiple occasions due to these barriers. Lastly, the researcher was obliged to be objective to the lessons presented by the teachers. Even though the researcher was the ICT support, he could not interfere with the challenges participants faced. The potential bias was avoided by

making voice recordings throughout the observations. These recordings prove that the researcher did not interfere with the lessons.

Classroom observations were done by adding field notes (Addendum E), which also form part of the data.

Data set 3: Semi-structured individual interviews

During this qualitative case study, the researcher used semi-structured individual interviews as advised by the work of Creswell (2014:239-240). Creswell (2014:239-240) states that qualitative interviews are generally unstructured and often consist of open-ended questions aimed at eliciting the participants' ideas and opinions. To generate data that the observations and policy documents could not produce, the unobservable data was collected by asking open and closed-ended interview questions (Appendix D). Furthermore, these were post-observation interviews that contained a set of questions focused on extracting the specific information relevant to this study and within the framework of TPACK.

Semi-structured individual interviews with the four English teachers were conducted with participants, which were slots of approximately 50 minutes. These interviews took place in their classrooms to avoid any disruptions. Each interview was conducted immediately after the observation to enable teachers to reflect on their pedagogy during that lesson and answer the interview questions accordingly. In this way, teachers could reflect on whether they had achieved their lesson objectives or what they could have done better to enhance their pedagogy. The open-ended questions granted teachers the flexibility of constructing abstract classroom settings where they could design and implement ICT-based reading lessons.

The questions were based on the teachers' experiences teaching English through ICT-based teaching methods. The interviews focused on how teachers make use of digital resources to teach English. All the questions of the post-observation interviews were informed by the theoretical framework (TPACK) discussed in the literature review chapter. The first question was based on their perspectives of using ICTs when teaching reading in the EHL classroom. The follow-up question pursued the teachers' opinions on what they considered opportunities and challenges in using ICTs in their pedagogy. Teachers were asked then whether they had identified any digital resources which sparked learners' interest in reading. A follow-up question was based on the teachers' experiences teaching with and without technology. An additional question was based on learner performance with and without technology. The last question elucidated the success or failure of their attempts to integrate ICTs when teaching reading in the EHL classroom. The questions for the semi-structured individual interviews are attached as Appendix D.

The researcher asked for consent from participants to audio record the interviews. Even though the researcher provided participants with a consent form at the start of the investigation, he reiterated that their identities would remain anonymous. During the interview process, the interviewer made notes of the participants' responses. These notes were later expanded, and the audio recordings were transcribed. The audio recordings were beneficial as they ensured the accuracy of what was revealed by participants. In the transcripts, the participants were allocated pseudonyms to protect their identities. Transcribed data were stored on a drive only accessible by the researcher.

Ethical considerations regarding interviews were adhered to by the researcher by ensuring written informed consent, confidentiality and anonymity, the right to withdraw, and that no risks, discomforts, or inconveniences were experienced by the participants. The only inconvenience caused was the loss of the teachers' free time to conduct the interviews.

This set of questions was used to serve as a foundation for judging the relevance of the TPACK framework in teachers' experiences of using ICTs in the teaching process. Semi-structured individual interviews allowed central themes to emerge. The questions allowed the participants to provide insights into their behaviour and perspectives that the researcher may not have observed based on the teachers' prior knowledge of the topic (Gratton & Jones, 2010:157). These themes are discussed in the data analysis section.

3.5 Data analysis

Data were analysed by interpreting data from the interviews and observations and comparing these with the fieldwork data gathered from classroom observations. Mack, Woodsong, MacQueen, Guest, and Namey (2011:5) advise that data analysis and collection should be integrated or done conjointly to be most successful. The data analysis provided meaningful themes that guided the interpretation of qualitative data into an organised system using Tesch's eight steps (Tesch, 2013). These steps include sifting meticulously through the collected data. The data were then categorised by the different aspects of the research question: the sensible use of ICTs in teaching reading. The implementation of digital reading materials to facilitate content comprehension, the willingness of teachers to embrace technology, the effective utilisation of technology as a tool to enhance reading skills, and the associated challenges faced by both teachers and learners in the integration of ICTs are significant considerations in this context.

3.5.1 Theoretical framework

The qualitative data analysis was completed by applying TPACK and SAMR using a deductive approach. The research study focused on both theoretical frameworks concurrently by the respective categories that are parallel to one another, which are Technological Pedagogical

Knowledge and Modification (TPK-M), Technological Knowledge and Augmentation (TK-A), Technological Content Knowledge and Modification (TCK-M), and Technological Pedagogical and Content Knowledge and Redefinition (TPACK-R). The researcher applied these categories to determine whether the participants exhibited all the aspects during the classroom observations (TPK-M) and semi-structured individual interviews (TK-A). The purpose of this application was to ascertain whether the participants possess the skills required in all the categories above, in order to determine the factors that would enable or constrain teaching reading when using ICTs. Ultimately, the researcher analysed every category of the amalgamated theoretical framework and attempted to uncover how each category can affect teachers' pedagogy at Grade 10 level.

Furthermore, an inductive approach was used to add new codes overlooked by the abovementioned categories (theoretical framework). The researcher made annotations referring to the different topics of the research question. Next, sorting and grouping of similar topics were compared, coupled with adding these groups in columns under the headings representing the major topics, the unique topics, and miscellanies. After that, the codes were used to abbreviate the topics, find intersections between two categories, and merge where they were similar. Furthermore, the codes were listed alphabetically to avoid duplication. Lastly, all the data were reviewed and captured according to the category for relevance to the research question to determine how the use of ICTs influences teaching reading at the Grade 10 level.

The results from secondary sources were used to answer the research questions and draw appropriate conclusions.

3.6 The researcher's position

The researcher was employed at the research site, however, the time of gathering data, the researcher moved on to a new role in a different academic institution.

Despite this attempt at reflexivity, the researcher could not be unbiased as the participants for this study are former colleagues of the researcher. However, to reiterate Yin (2009;13-14), multiple data sources are "converged in a triangulating approach." Another measure to mitigate bias was observing participants before the interviews to avoid any form of falsification or inflation of the data. The researcher expected participants to teach naturally without wanting to inflate the data.

In general, the non-participant observer attempts to answer the research question by collecting data inside the participant's world while remaining an outsider (Mack et al., 2011:13). The researcher had to remain objective but at the same time relate his position and understanding to the data obtained, as that is one of the key components of an interpretative paradigm. The

researcher's interpretations are inseparable from the participants' actions (Creswell, 2009:146).

During the semi-structured individual interviews, the researcher held the position of interviewer. According to Mack et al. (2011:29), participants become the experts during the interview process, justifying the researcher's position. The interviewer posed questions to the Grade 10 teachers to obtain their understanding of the topic. Follow-up questions or sub-questions were asked based on responses unique to each participant. Participants were not led to preconceived notions or nurtured by conveying approval or disapproval (Mack et al., 2011:29).

3.6.1 Trustworthiness

Trustworthiness was ensured by applying the three principles: credibility, dependability, and transferability. Trustworthiness is a well-defined process which included ethical clearance from the Cape Peninsula University of Technology (CPUT) and Western Cape Education Department (WCED) to conduct research at the chosen site. The triangulation of data, mentioned in Chapter 3, yielded unbiased results.

3.6.2 Credibility

The researcher ensured credibility through prolonged/sustained engagement at the research site. The six-month engagement period was sufficient to gather all data required to determine how ICTs can enable or constrain teaching reading at the Grade 10 level. An additional measure utilised was consistent classroom observations, two observations per teacher, to ascertain the relevance of the rationale to explore possible methods to promote the use of ICTs in the teaching of reading. Furthermore, the extended use of triangulation provided clarification of the complexities of using ICTs in teaching reading. Thus, three different methods to collect data were used. Theoretical triangulation was incorporated as well as the researcher followed the works of similar theories and avoided limitations experienced by opposing theories. Moreover, the researcher was exposed to peer debriefing with an impartial teacher who reviewed the interview questions and observation schedule. A pilot interview and observation were conducted to test reliability and assumptions and to identify any flaws in the data collection methods.

3.6.3 Dependability

Dependability was ensured through member checks, which followed the semi-structured individual interviews. The researcher asked participants to express their views on the categories of interview questions and whether they were keen on commenting on the framework for the research. Louis et al. (2007:149) explain that dependability creates the major problem of participant validation. The opportunity was granted to participants to confirm

and acknowledge their participation as well as whether their responses were indeed truthful and dependable.

To consolidate, the researcher provided the participants with the research report to validate that the findings were dependable. This was done to minimise any suspected bias.

3.6.4 Transferability

Transferability is synonymous with external validity and generalisability, as it pertains to the extent to which research findings can be applicable to contexts other than the specific one in which they were obtained or with different individuals involved (Bitsch, 2005:85). Researchers are often excessively concerned with transferability. However, it is important to recognise that the findings of a qualitative study should be interpreted considering the specific characteristics of the organisation(s) involved and the geographical area where the fieldwork took place (Shenton, 2004:70). This research is focused on how teaching reading at the Grade 10 level is either enabled or constrained by ICTs. Hence, the four Grade 10 teachers participating in this study are part of the phenomenon. As a result, the data collected from participants were from individual teachers' perspectives and, therefore, cannot be generalised. This qualitative study aimed to gain an in-depth understanding of teachers struggling to teach reading using technology, and not to generalise findings. Therefore, to ensure transferability, rich contextual data was provided, including the raw data that reveals ICT-based pedagogy and participants' responses.

3.6.5 Validity

Validity procedures were chosen based on two views: the perspective researchers chose to validate their research and the researchers' paradigm hypotheses. Nine validity techniques complement the two perspectives (Creswell & Miller, 2000:124).

3.6.5.1 The researcher's perspective

Qualitative researchers use a lens based on observations of people who conduct, take part in, or evaluate a study (Creswell & Miller, 2000:125).

For example, one perspective to influence credibility is the specific view of the researcher. The researcher determined the duration of the fieldwork, the selection of themes after data became saturated, and how data analysis evolved into a sequence of events (Creswell & Miller, 2000:125).

A second perspective assumes that reality is socially produced and is defined by how participants see it. This perspective alludes to the significance of accuracy in the final account of how participants' realities have been epitomised (Creswell & Miller, 2000:125).

Thirdly, an external individual can account for the credibility of the study. Reviewers who are not involved with the research project and diverse readers for whom the account is written may be able to assist in determining validity (Creswell & Miller, 2000:1).

3.7 Ethical considerations

The researcher applied for ethical clearance from CPUT and the WCED. The CPUT Faculty of Education Higher Degrees Committee (FHDC) approved ethical concerns before data collection (Appendix A). The CPUT provided the researcher with an Ethics number (EFEC 4-12/2021).

This clearance was provided following the research criteria designed by the EFEC of CPUT. This authorisation is valid until December 31, 2024. Only research conducted inside the Faculty of Education was permitted. Research activities were limited to the specifics of the research study as specified in the Ethics application. If any changes were to be made to the outlined study, the researcher had to notify the EFEC immediately.

Permission to research Western Cape public schools must be obtained from the WCED. Firstly, an application letter (Appendix E) was sent to the research directorate to obtain consent to conduct the research study at the selected school. Secondly, when permission was granted, the School Management Team (SMT), along with the principal, were informed of the study's objective, the observations, and the interviews. The data collection methods were scheduled then according to the convenience of the school to avoid any disruption of normal school activities.

Thirdly, a letter of consent was forwarded to the SMT to inform them of the purpose of the study and gain their approval to work with the teachers selected as participants. Lastly, a letter of consent was provided to all participant teachers. This consent letter explained that participants had a choice of whether to participate, and that they had the right to withdraw at any given time and would remain anonymous. In addition, the researcher's contact details were made available to participants who had any queries. Confidentiality and anonymity were strengthened by identifying participants with pseudonyms such as Participant A, B, C, or D.

After the interviews, participants were provided with interview transcripts for verification and conformity. There was no falsification of data. To secure the data, the researcher uploaded the raw and processed data to the Google Cloud. The online backup was done to prevent the data from being tampered with or mislaid.

The WCED permitted the study subject to the following conditions: principals, educators, and students are not obliged to assist with the inquiry, and the study findings should not identify specific individuals or schools. The researcher is responsible for developing all plans for the

research, and educational programmes should not be disrupted. The study will run from December 10, 2021, to June 30, 2022. No research may be conducted during the fourth term when schools are busy with curricular planning. If the researcher wishes to extend the length of inquiry, it must be coordinated with the research directorate.

The researcher acknowledges any ethical issues to consider when conducting this study. The Cape Peninsula University of Technology's ethical guidelines were followed throughout this investigation. The researcher avoided any falsification and plagiarism. Furthermore, the ethical responsibilities were monitored by the supervisors.

3.8 Conclusion

The third chapter rationalised the research approach and design for this study. The research questions and aims guided the researcher to use a suitable paradigm during data collection. The interpretative paradigm allowed participants to express their perceptions of using ICTs when teaching reading and assisted the researcher in categorising and deciphering the raw data to transform it into rich and in-depth knowledge.

The researcher followed the interpretative design and provided observable facts in the participants' real-life context. Thus, the data collection process was explained: the site selection, purposive sampling, and the data collection instruments. The three data collection methods used were: (1) document analysis, (2) classroom observations, and (3) semi-structured individual interviews.

The methodology concluded with a data analysis process and explored ethical considerations. The researcher gathered data in the field for approximately six months. Each participant was observed twice to validate the results of each observation. Semi-structured individual interviews lasted for approximately 25 to 30 minutes each. The analysis of data commenced immediately to avoid any negligence of important information. The following chapter illustrates and analyses the data according to the researcher's interpretation and TPACK and SAMR using Tesch's eight steps.

In the next chapter, the data presentation section, the researcher presents the raw data collected from the document analysis, classroom observations, and semi-structured individual interviews in the methods suggested in this chapter. The goal is to present a thorough and accurate portrayal of the research process and the insights gained from the raw data collected.

CHAPTER 4

PRESENTATION OF DATA

4.1 Introduction

The data gathered for the study, presented in this chapter, were guided by the study's aim to examine how the integration of ICTs in teaching reading at the Grade 10 level impacts instructional practices.

This chapter presents the unprocessed data collected from policy documents (document analysis), classroom observations, and semi-structured individual interviews. The unprocessed data will be examined in preparation for the data analysis section in Chapter 5. Each separate data collection set will be numbered and referred to as below:

- Data set one: Document analysis.
- Data set two: Classroom observations.
- Data set three: Semi-structured individual interviews.

Document analysis (data set 1) was used to evaluate the guidance and expectations of policymakers, specifically on how and when to teach reading and to identify any reference to the use of ICTs.

Classroom observations (data set 2) were done to observe whether teachers use ICTs and how they employ ICTs to teach reading. By observing teachers in action, the researcher gained first-hand experience regarding how teachers incorporate technology into their lessons and whether it is effective for teaching reading. In addition, by focusing on the impact of ICTs on teaching reading specifically, the researcher gained insights into how teachers experience teaching reading with and without ICTs.

Semi-structured individual interviews (data set 3) were used to understand the participants' position as EHL teachers, their pedagogy, and to what degree they were using ICTs. The purpose of this chapter is to present the data that were collected to answer the following research questions:

Main research question

The main research question is: How does the integration of ICTs in the teaching of reading at the Grade 10 level affect instructional practices?

Research sub-questions

1. How could ICTs be used in teaching reading?
2. What are teachers' experiences with ICTs in teaching reading?
3. How could teachers be supported to use ICTS in the teaching of reading?

4.2 Data sets

In this study, three data sets were used to gather information about the use of digital technology in education. The first data set was a document analysis, which involved reviewing three key documents that guide digital learning in the participating schools. These documents included the Curriculum and Assessment Policy Statement (South Africa. Department of Basic Education, 2011a), Annual Teaching Plans (South Africa. Department of Basic Education, 2021), and *Professional Development Framework for Digital Learning* (South Africa. Department of Basic Education, 2015:8). The documents were selected based on their relevance to the study's research questions. The presentation of these documents is intended to provide a deeper understanding of the challenges and opportunities for using ICTs to teach reading in the EHL classroom.

The second data set used in this study was classroom observations. Classroom observations were conducted to observe and document how teachers integrate ICTs to teach English in the classroom. A structured observation checklist was used to gather data on the types of digital tools and resources used, how they were being integrated into learning and teaching, and their impact on the teachers' pedagogy.

The third data set was semi-structured individual interviews. Individual interviews were conducted with teachers to gather in-depth insights into their perceptions, experiences, and attitudes towards using ICTs to teach EHL. The interviews were semi-structured: the interviewer had a list of questions to guide the conversation. However, the interviewee could expand on their answers and provide additional information.

4.2.1 Data set 1: Document analysis

This study analysed three documents relevant to digital learning in the South African education system: the Curriculum and Assessment Policy Statement, Annual Teaching Plans, and *Professional Development Framework for Digital Learning*. The purpose was to gain insights into the curriculum requirements, instructional strategies, and professional development needs to use ICTs to teach English effectively.

Data set 1 examines the various policy documents – Curriculum and Assessment Policy Statement (CAPS), Annual Teaching Plans (ATPs), and the *Professional Development Framework for Digital Learning* – which serve as the primary reference points for educators regarding the requirements for learning and teaching. The researcher examined these documents to cross-reference the participants' actions during classroom observations and the information they provided during the semi-structured individual interviews.

4.2.1.1 Curriculum and Assessment Policy Statement (CAPS) Further Education and Training (FET) Phase Grades 10-12 English Home Language

The South African education system underwent significant changes in the post-apartheid era by introducing new curriculum policies, as discussed in Chapter 2. These policies were designed to align the education system of South Africa with the South African Constitution (Act 108 of 1996) and promote equality and accessibility for all students (South African Department of Basic Education, 2011a:3).

The Curriculum and Assessment Policy Statement (CAPS) is a comprehensive document outlining the curriculum for South African schools. It sets out the goals and objectives of the education system. In addition, it guides the content and structure of the curriculum and the assessment and evaluation of learners. The CAPS document is designed to ensure that the education provided in South African schools is of high quality and meets the diverse needs of learners. It must be used in all public schools in South Africa and covers all grades from Grade R (the equivalent of kindergarten) to Grade 12 (the end of secondary school). The CAPS documents for each grade and specific subject are developed and reviewed by the Department of Basic Education in consultation with various stakeholders, including educators, subject experts, and education sector representatives (South Africa. Department of Basic Education, 2011a:3).

The researcher used the CAPS FET Grades 10 to 12 EHL document as a reference to understand the curriculum requirements and guidelines provided by policymakers for teaching reading skills with the aid of technology. In addition, this document served as a guide for the researcher to collect data on the guidance provided to Grade 10 to 12 EHL teachers on integrating digital technologies in teaching reading skills. The researcher observed whether teachers display this guidance in their classrooms and whether they can effectively convey it during interviews.

The CAPS FET Grades 10 to 12 EHL document is categorised according to the following skills: listening and speaking, reading and viewing, and writing and presenting. This section focuses on the process of reading and viewing and the methods for understanding and appreciating both literary and non-literary works.

The table below (Table 4.1) presents relevant instructions from the CAPS FET Grades 10 to 12 EHL document – focusing only on the Grade 10 level. It examines strategies suggested by policymakers on teaching reading, the time spent on reading, and how the learners could acquire better reading skills.

Table 4.1 An overview of the reading and viewing skills, content, and strategies

Skills, content, and strategies discussed in the CAPS FET	CAPS reference
Learners must apply pre-reading, reading, and post-reading strategies that help them to comprehend and interpret a wide variety of texts, for example predicting, clarifying, and evaluating. In addition, learners must apply pre-reading strategies such as skimming and scanning text features, parts of a book and the structure of paragraphs/texts and learn how they contribute to meaning.	Page 10 Rationale for teaching language skills.
Language teaching approaches A text-based approach teaches learners to become competent, confident, and critical readers, writers, viewers, and designers of texts. It involves listening to, reading, viewing, and analysing texts to understand how they are produced and their effects.	Page 11 The approaches to teaching language are text-based, communicative, integrated, and process-oriented.
Approaches to teaching literature The best ways to approach the teaching of literature would involve some or all of the following: • Make every attempt to read as much of the text in class as possible without breaking for any other activity. This should not take more than two weeks. • Literary interpretation is a university-level activity, and learners in this phase do not have to learn this advanced level of interpretation. • Finally, it is essential to note that literature is not about correct answers. A whole text means something, not just bits and pieces of it.	Page 12 The document provides a general framework on how to teach literature effectively.
Teachers are advised to teach Reading and Viewing: Comprehension and Literature for four hours over two weeks.	Page 13 Time allocation in the curriculum

The HL curriculum is structured around a weekly duration of 4.5 hours over a 40-week academic year. Language materials are organised in a recurring two-week sequence, amounting to nine hours in every cycle. While teachers are not strictly bound by this sequence, they should ensure frequent practice of language abilities, particularly reading. The allotment of time for distinct language skills in Grades 10 and 11 spans across 36 weeks (South Africa. Department of Basic Education, 2011a:12).

Table 4.2 Grade 10: Term 1 Teaching Plan (South Africa. Department of Basic Education, 2011a:43)

GRADE 10 TERM 1			
Weeks	**Listening and speaking**	**Reading and viewing**	**Writing and presenting**
5 and 6	**Listening for comprehension:** (Informative, evaluative, appreciative and interactive) Duration: 1 hour	• **Reading for comprehension:** Interpretation of visual texts • **Literature study** Duration: 4 hours	**Transactional texts:** Report/ review/newspaper article/magazine article **Focus on:** **Process writing** Planning, drafting, revising, editing, proof-reading and presenting **Language structures and conventions** • Register, style and voice • Word choice • Sentence construction • Paragraph writing • Punctuation and spelling **Format and features of chosen text** Duration: 4 hours
7 and 8	**Discussion/conversation:** • Features and conventions • Planning, researching, organising, practising and presenting Duration: 1 hour	• **Reading for comprehension:** o Vocabulary development and language use o Sentence structures • **Literature study** Duration: 4 hours	1 x **essay:** Narrative/descriptive/argumentative **Focus on:** **Process writing** Planning, drafting, revising, editing, proof-reading and presenting **Language structures and conventions** • Register, style and voice • Word choice • Sentence construction • Paragraph writing • Punctuation and spelling **Format and features of chosen text** Duration: 4 hours
9 and 10	**Prepared/unprepared speech:** • Features and conventions • Planning, researching, organising, practising and presenting Duration: 1 hour	• **Summary writing** • **Literature study** Duration: 4 hours	**Transactional text:** Speech/ dialogue/interview **Focus on:** **Process writing** Planning, drafting, revising, editing, proof-reading and presenting **Language structures and conventions** • Register, style and voice • Word choice • Sentence construction • Paragraph writing • Punctuation and spelling **Format and features of chosen text** Duration: 4 hours

The weekly teaching plans in Table 4.2 above are examples for teachers, and they are not meant to exclude specific teaching strategies. For example, a teacher could read as much of a literary piece as feasible in class.

The order in which the content is tabulated does not have to be followed exactly, and the duration is only an estimation of how long it could take to cover the content. The topic should be taught each term using any acceptable sequence and speed, according to the lesson plans/work schedules that teachers construct (or use/adapt from their textbooks).

Table 4.3 Grade 10: Term 2 Teaching Plan (South Africa. Department of Basic Education, 2011a:45)

GRADE 10 TERM 2			
Weeks	**Listening and speaking**	**Reading and viewing**	**Writing and presenting**
11 and 12	**Dialogue/interview/speech:** • Features and conventions • Planning, researching, organising, practising and presenting Duration: 1 hour	**Reading for comprehension:** Strategies using written texts: See Section 3.2 • **Literature study** Duration: 4 hours	**Transactional text:** Speech/ dialogue/interview **Focus on:** **Process writing** Planning, drafting, revising, editing, proof-reading and presenting **Language structures and conventions** • Register, style and voice • Word choice • Sentence construction • Paragraph writing • Punctuation and spelling **Format and features of chosen text** Duration: 4 hours
13 and 14	**Prepared/unprepared speech:** • Features and conventions (public-speaking techniques, structure, and preparation process) of chosen text • Planning, researching, organising, practising and presenting Duration: 1 hour	• **Summary writing** • **Literature** study Duration: 4 hours	**1 x essay:** Narrative/descriptive/argumentative **Focus on:** **Process writing** Planning, drafting, revising, editing, proof-reading and presenting **Language structures and conventions** • Register, style and voice • Word choice • Sentence construction • Paragraph writing • Punctuation and spelling **Format and features of chosen text** Duration: 4 hours

GRADE 10 TERM 2			
Weeks	**Listening and speaking**	**Reading and viewing**	**Writing and presenting**
15 and 16	**Informal discussions/ conversation:** • Features and conventions • Applying conventions Duration: 1 hour	• **Interpretation of visual texts**, e.g. adverts, cartoons, pictures • **Literature** study Duration: 4 hours	**Transactional text:** Friendly/ formal letters (request/complaint/ application/business) /formal and informal letters to the press/ curriculum vitae and covering letter/ obituary/agenda and minutes of meeting **Focus on:** **Process writing** Planning, drafting, revising, editing, proof-reading and presenting **Language structures and conventions** • Register, style and voice • Word choice • Sentence construction • Paragraph writing • Punctuation and spelling **Format and features of chosen text** Duration: 4 hours
17 and 18	**Panel discussion:** • Features and conventions • Planning, researching, organising, practising and presenting Duration: 1 hour	• **Reading for comprehension:** o Vocabulary development and language use o Sentence structures **Literature study** Duration: 4 hours	**Transactional texts:** Report/ review/newspaper article/magazine article **Focus on:** **Process writing** Planning, drafting, revising, editing, proof-reading and presenting **Language structures and conventions** • Register, style and voice • Word choice • Sentence construction • Paragraph writing • Punctuation and spelling **Format and features of chosen text** Duration: 4 hours

Term 1 and Term 2 of EHL in Grade 10 have a similar focus on a literature study component emphasising reading for comprehension. The strategies used to understand written texts are emphasised in Term 1, while in Term 2, there is a greater focus on vocabulary development, language use, and sentence structures. Additionally, both terms involve the interpretation of visual texts, such as advertisements and cartoons, in the reading and viewing component.

In Grade 10 Term 1, the focus is on reading for comprehension using written texts and literature study. In contrast, in Term 2, the focus shifts to the interpretation of visual texts such as adverts, cartoons, and pictures, as well as reading for comprehension, which includes vocabulary development and sentence structures.

In Table 4.4 below, curriculum specialists advise teachers to have a variety of reading materials readily available for learners to read. In addition, the texts should vary in length and genre (South Africa. Department of Basic Education, 2011a:28).

Table 2.4 Summary of texts genres to be read in Grade 10 (adapted from South Africa. Department of Basic Education, 2011a:28)

The following recommended literary genres are included in the National Literature Catalogue: • Novel • Drama • Poetry ○ Ten poems	**Written texts for information:** • Dictionaries • Encyclopaedias • Schedules • Telephone directories • Textbooks • Thesaurus • Timetables • TV guides	**Multimedia/visual texts for information** • Charts, maps • Graphs, tables, pie charts, Mind-maps, diagrams • Posters • Flyers, pamphlets, brochures, Signs, and symbols • TV documentaries • Web pages, Internet sites, blogs • Facebook and other social networks • Data projection Transparencies
Enrichment: • Films • Selected TV series/documentaries • Radio dramas • Essays • Biographies • Autobiographies • Folk tales • Myths and legends	**Written texts in the media** • Magazine articles • Newspaper articles • Editorials Notices • Obituaries Reviews • Brochures • Advertisements (commercial and classified	**Multimedia/visual texts for aesthetic purposes** • Films • Photographs • Illustrations
	Written forms of audio texts • Dialogues • Speeches • Songs • Jokes	**Multimedia/visual texts for enjoyment and entertainment** • Films, TV programmes • Music videos • Cartoons, caricatures • Comic strips • Jokes (illustrated) • Graffiti
	Written interpersonal and transactional texts • Letters • Diaries • Invitations • Emails • SMS's • Twitter • Notes • Reports	**Audio texts, Radio programmes** • Readings of dramas • Readings of novels or short stories • Recorded speeches, Advertisements on the radio, • TV, newspapers, and magazines
	Written interpersonal texts in business • Formal letters • Minutes and agendas	

Table 4.4 provides a comprehensive list of recommended literary genres and texts that Grade 10 English teachers can use to develop their learners' reading skills. The table is organised into several categories, such as "Written texts for information," "Multimedia/visual texts for aesthetic purposes", and "Written interpersonal and transactional texts". This organisation can help teachers to select texts based on the specific reading skills they want their learners to develop or the particular learning outcomes they are trying to achieve.

The reading comprehension passages for learners throughout the year vary between 500 and 600 words. This is usually in preparation for the formal assessment task/examination (Paper 1 – Language in Context). The length of the text that should be summarised by learners is 280 words. The learners should summarise the 280 words into 80 to 90 words only.

4.2.1.2 Annual Teaching Plan (ATP) English Home Language Grade 10

The Department of Basic Education (DBE) has formulated an Annual Teaching Plan (ATP) document furnishing teachers with guidance for execution and the necessary content and skills that need to be addressed. Teachers utilising the CAPS curriculum in South Africa have access to ATPs from the DBE (South Africa. Department of Basic Education, 2011a:31). These publications outline the essential knowledge and abilities for each topic and grade level. In 2020, the Director General of Education, Mr Mweli, released Circular S13 which states that COVID-19 caused significant disruptions to the education system. In response to the reduced time for learning and teaching, the DBE adopted a recovery ATP to mitigate the impact of COVID-19 on education.

Annual teaching plans assist teachers in long-term lesson planning for each topic. They enable teachers to plan the needed materials for each day, week, or month by looking at each lesson plan. Teachers can use this material with CAPS curriculum requirements to ensure their courses cover the relevant concepts and objectives.

Every ATP encompasses a weekly schedule for each academic term, outlining the fundamental knowledge, abilities, and morals that must be imparted. Essentially, it functions as a guide for expected outcomes that each learner should achieve by the end of the term.

Table 4.5 Annual Teaching Plan with specific topics across the ten weeks of Term 1 (South Africa. Department of Basic Education, 2021)

Term 1 (45 days)	**Week 1-2**	**Week 3-4**	**Week 5-6**	**Week 7-8**	**Week 9-10**
Reading and viewing	Introduction to genres: • Key features of texts and parts of a book, including literary genres • Literature study • Novel • Drama • Poetry Duration: 3 hours	Reading for comprehension: Strategies using written texts: See 3.2 (CAPS) • Literature study Duration: 4 hours	Reading for comprehension: • Vocabulary development and language use • Sentence structures • Literature study Duration: 4 hours	Literature study Duration: 4 hours	Literature study: Review: • Novel • Drama • Poetry Work covered in Term 1 Duration: 3 hours
Resources (other than textbook) to enhance learning	Additional resources for Literature study (ATP does not specify which resources the teachers should use to enhance the literature study).				
Informal Assessment	Pre-reading activities for introduction to literature		Visual literacy activities: Paper 1	Correction of Test 1: Language in Context	
SBA (Formal Assessment)				Task 4: Test 1: (35 marks) Language in Context Comprehension Summary Language structures and conventions	

Table 4.5 provides an ATP for Term 1, outlining specific topics and activities to be covered in each of the ten weeks of the term.

The ATP for Terms 1 and 2 is helpful for the researcher to analyse the teaching of reading across the ten and 11-week terms. The ATP for Term 1 provides a clear overview of the year's topics and themes covered in the reading curriculum (CAPS). This assists the researcher in understanding the general direction and focus of the teaching of reading and provides a basis for comparing the varying methods of topics, duration spent on each topic, resources used, and how and when learners' reading skills are assessed.

Table 4.6 Annual Teaching Plan across the 11-week Term 2 (South Africa. Department of Basic Education, 2021)

Term 2 (51 days)	**Week 1**	**Week 2 to 3**	**Week 4 to 5**	**Week 6 to 7**	**Week 8 to 9**	**Week 10 to 11**
Reading and viewing	Review of Term 1 content/ skills Review poetry/ literary essay • Novel • Drama • Poetry Duration:1, 5 hours	Introduction to genres: • Key features of texts and parts of a book, including literary genres • Literature study Novel •Drama •Poetry Duration: 3 hours	Reading for comprehension: Strategies using written texts: See 3.2 (CAPS) • Literature study Duration: 4 hours	Reading for comprehension: • Vocabulary development and language use • Sentence structures • Literature study Duration: 4 hours	Literature study Duration: 4 hours	Literature study: Review: • Novel • Drama • Poetry Work covered in Term 1 Duration: 3 hours
Resources (other than textbook) to enhance learning		Additional resources for Literature study (ATP does not specify which resources the teachers should use to enhance the Literature study).				
Informal Assessment		Pre-reading activities for introduction to literature		Visual literacy activities: Paper 1	Correction of Test 1: Language in Context	
SBA (Formal Assessment)					Task 4: Test 1: (35 marks) Language in Context Comprehension Summary Language structures and conventions	

The data in Table 4.6 provides information about the ATP for the 11-week Term 2, which comprises 51 days. In addition, the table outlines the curriculum content for each week, the duration of each session, and the resources and assessments used for teaching.

The curriculum content for Term 2 focuses on reading and viewing, which emphasises literature study. In the first week, students review the content and skills learned in Term 1 and engage in poetry and literary essay review. The subsequent weeks are devoted to literature study and introduce genres such as novels, dramas, and poetry. Reading comprehension strategies, vocabulary development, and language use are emphasised in the following

weeks. The last two weeks of Term 2 are dedicated to reviewing the work covered in Term 1, particularly in the literature study.

In summary, the two ATPs have little difference in structure and content. Instead, the genres covered in Term 2's weeks 2 to 3 are an extension of those covered in Term 1's weeks 1 to 2. While Term 1 introduces the genres, Term 2 emphasises the key features to help students develop their skills. Despite variations in topics and themes, reading instruction's overall focus and structure remain consistent across both ATPs.

4.2.1.3 Professional Development Framework for Digital Learning

The *Professional Development Framework for Digital Learning* (South Africa. Department of Basic Education, 2015:8) offers a novel method for the professional growth of educators who use digital tools and content resources to achieve enhanced learning outcomes and increased learner attainment across the curriculum. The framework is readily available on the WCED e-portal, among other resources such as e-books, lesson plans, ATPs, and workshop links.

The goal of the *Professional Development Framework for Digital Learning* is to offer recommendations for professional growth, with a focus on ensuring qualified teachers who "use ICTs to enhance teaching and learning" (Department of Basic Education, 2015:9) and leaders and supporting personnel who can promote the development of educators' digital learning abilities (South Africa. Department of Basic Education, 2015:9). Furthermore, the framework uses working definitions that take into consideration the emerging and evolving nature of digital technologies and their impact on the practice of learning and teaching, and its purpose and goals are firmly rooted in the contemporary global and South African policy environment.

Digital education, encompassing e-learning and mobile learning, refers to the utilisation of appropriate digital instruments and materials to enhance the teaching and learning encounters of both teachers and learners. This enhances the efficiency in achieving curriculum learning goals. This framework sees "ICT integration", a more significant notion than "IT skills", as a more recent demonstration of digital learning (South Africa. Department of Basic Education, 2015:9).

E-learning, as described in the White Paper on e-Education, operates in a transformed teaching environment where learning is characterised as an ongoing and creative activity (South Africa. Department of Basic Education 2004:19). This calls for a new approach to learning and teaching in which instructors and students will have access to high-quality, current, and varied materials that go beyond what is currently offered by school libraries, a way to interact with and work with other students and instructors, and chances to create and communicate new information.

According to the *Professional Development Framework for Digital Learning*, a teacher has seven roles (South Africa. Department of Basic Education, 2015:14):

1. The Expert in a phase, profession, or practice.
2. The Facilitator of learning.
3. The Creator of educational resources and programs.
4. The Manager, executive, and leader.
5. The Academician, investigator, and lifelong learner.
6. The Examiner.
7. The Community member, citizen, and pastor.

Based on the *Professional Development Framework for Digital Learning*, a combination of roles such as instructional designer, technology coach, and online teacher develops educators' competencies in planning and facilitating digital learning. These competencies serve as the foundation for a teacher's needs analysis and planning for professional development in digital learning, which is essential to attain the aims of this framework.

These roles enhance digital learning by helping teachers design compelling digital learning experiences, guide students in using digital tools and resources, develop digital content, provide necessary infrastructure and support, continuously update their knowledge and skills, assess the effectiveness of digital learning experiences, and promote digital citizenship and ethical use of technology. Together, these roles provide teachers with the competencies, skills, and knowledge necessary to plan, implement, and evaluate practical digital learning experiences that meet the needs of students and align with the goals of the framework.

The educators' competencies of planning and facilitating digital learning will serve as the foundation for a teacher's needs analysis and planning for professional development in digital learning.

The goal of improved learner attainment depends on many factors. These can be enhanced through practical learning and teaching approaches such as TPACK supported by digital tools and resources (South Africa. Department of Basic Education, 2015:20). The three professional development knowledge areas are:

- Understanding the learning potential of technology (Technological Knowledge).
- Understanding of how to educate in the current circumstances/conditions (Pedagogical Knowledge).
- Understanding the topic matter (Content Knowledge).

Figure 4.1 shows the *Technological Pedagogical Content Knowledge* (TPCK) framework mentioned in the DBE's (2015:20) framework (4.2.3) which helps to demonstrate and

characterise the types of knowledge required by a teacher for effective pedagogical practice in a technology-enhanced learning setting.

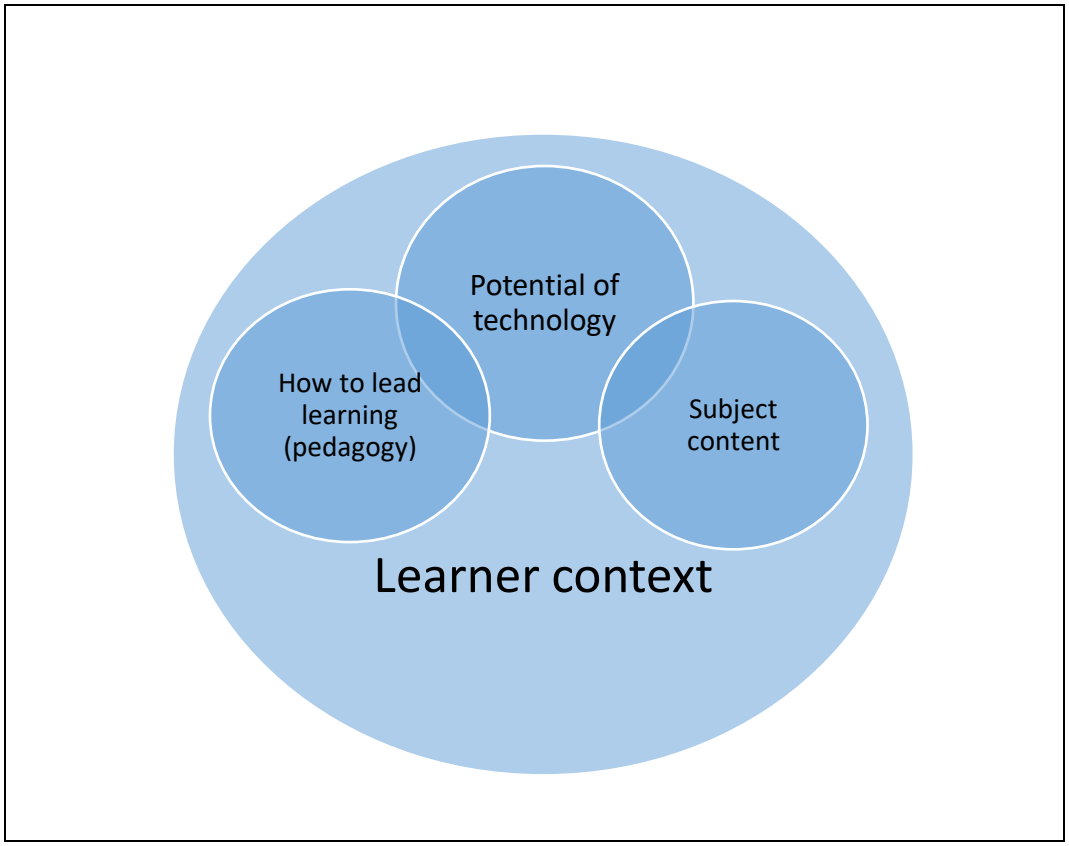


Figure 4.1 Digital technologies and resources integrated into a knowledge framework for teacher professional development (South Africa. Department of Basic Education, 2015:20)

The pedagogy's larger circle reflects the relative relevance of pedagogical expertise in lesson preparation and decisions made about using digital technologies and content resources. During initial teacher education and continued in-service training, curricular topic experts often discuss the intersection of pedagogical and content knowledge (how to teach subject matter). To successfully improve learning and teaching, instructors need a particular form of knowledge produced by converging the three shaded knowledge domains in the centre of Figure 4.1.

The framework helps educators to create pedagogically sound lessons that maximise the effects of digital technologies and content resources on instruction and learning in a particular setting. This covers the confluence area of all three knowledge domains in the middle of Figure 4.1 in line with the TPACK structure, measured with the TPACK analysis checklist shown in Table 4.7.

As seen in the DBE's (2015:41) *Professional Development Framework for Digital Learning*, the following lesson analysis checklist is based on the TPACK model's guiding principles, which urge teachers to choose wisely about their learning and teaching strategy, the technological resources that affect it, and the subject knowledge that these resources advance. The data set illustrates that the following examples are signs of efficient utilisation of digital content.

Table 4.7 TPACK lesson analysis checklist (South Africa. Department of Basic Education, 2015:41)

Digital content		√
1	Different degrees of supplementary learning resources are available to learners.	
2	Content is offered in various media types (e.g., books, movies, images, applications) and mode types (e.g. graphics, sound, text, and video).	
3	I have discovered digital materials that may be utilised for remedial learning with one or two students at a time.	
4	Digital resources that may be utilised to support individual learners or small groups of learners have come to my attention.	
5	Digital information has helped me to reinforce and improve the lessons I teach in class.	
6	I have discovered digital resources that let learners work more autonomously during lessons, either alone or in small groups.	
7	I have discovered digital content that will let learners continue working toward their learning goals after class.	

As seen in Table 4.7, the TPACK lesson analysis checklist from the DBE (2015:41) provides a comprehensive assessment of digital content utilisation in teaching. The checklist includes various criteria, such as the availability of different types of digital content, the use of digital resources for remedial learning, and the potential for autonomous learning. Additionally, the table highlights the importance of utilising digital information to reinforce and improve classroom lessons.

As discussed in Chapter 2, the Substitution, Augmentation, Modification, and Redefinition (SAMR) model is utilised in this data set (4.2.3) to analyse how the nature of the job and student engagement are affected by digital tools and resources. When access to these tools makes it practicable, this framework promotes learner-driven use of digital tools and resources (South Africa. Department of Basic Education, 2015:26).

Table 4.8 describes the SAMR model in data set 4.2.3 as a guideline to evaluate how the technology affects task and learner engagement. Every elevated stage within the paradigm provides an expanded array of novel avenues through which these digital instruments and

materials could enrich the learning process and align with more transformational pedagogy (South Africa. Department of Basic Education, 2015).

Table 4.8 The impact of the SAMR model on the current task (South Africa. Department of Basic Education, 2015:26-27)

R	Redefinition. Redefining the work is feasible with the aid of technology: e.g. the ability to reinterpret writing tasks as video productions with written scripts is made possible by video cameras and editing software.
M	Modification. Technology enables the work to be modified: e.g. it is simpler to perform collaborative writing processes or to include more student input in writing when using online collaborative documents.
A	Augmentation. The task is augmented by technology. However, the task remains roughly unchanged: e.g. word processing tools (such as spell check and thesaurus) augment the writing process.
S	Substitution. Technology replaces traditional methods. The task is unaltered: e.g. writing an essay on a computer rather than using a pen.

4.2.1.4 Conclusion (data set 1)

In conclusion, the CAPS and ATPs provide an overview of the reading curriculum, including specific reading skills and how learners should comprehend texts. The *Professional Development Framework for Digital Learning*, designed by the WCED in 2015, outlines ICT-based teaching methods for teachers and provides detailed guidance on using the TPACK and SAMR frameworks to integrate technology into teaching reading.

4.2.2 Data set 2: Classroom observations

In order to conduct the participant observations, the researcher had to determine the purpose of the participant observation for the general research objectives. For this study, the researcher observed eight lessons (two lessons each) of four Grade 10 English teachers to monitor whether ICTs enabled or constrained the teaching of reading. To answer the sub-questions, an observation schedule was used to guide the researcher to observe identifiable actions related to the purpose of the study. These actions were recorded as thoughtful comments called field notes. The observation schedules are tabulated and labelled according to each lesson topic.

The tables are structured in two columns: the pre-determined variables derived from the objectives of the study are placed in the left column, and what the researcher observed is presented in the right column. The researcher used observation parameters to control the observation process. Initially, the research questions guided the observation using structured observation protocols (the variables left of the table) to ensure that relevant data was collected during this classroom observation process. Another technique used to guide the observation was the data from the policy documents. The researcher studied these documents to understand the teacher's role and how policymakers expect teachers to conduct a reading lesson. Thus, the observation schedules below are structured to distinguish between what the policy documents require and the reality of what happened in the classroom.

Teacher A, observation 1: Analysing a poem – Caged Bird by Maya Angelou

In this lesson (Table 4.9), Teacher A introduced a poem to the Grade 10 learners by providing a brief historical background and examining the title. The teacher asked the learners to annotate themes relevant to the poem and provided synonyms and figures of speech to clarify the different stanzas. The learners were then instructed to complete an activity based on the poem, but the bell rang before they could finish it. The lesson did not use any technology, and the observer assumed that the activity would either be completed in the next lesson or as homework. The lesson was prepared using ICTs, but no technologies were used during the actual lesson.

Table 4.9 Lesson 1 – Teacher A – Observation 1

Teacher A – Observation 1	
Observation schedule	Observation
1. Instructions by teacher on reading.	The teacher instructed learners to underline words that were unfamiliar to them.
2. Teacher 'chalk-and-talk' as opposed to using ICTs strategies mentioned in Chapter 2.	The teacher talked and made some notes on the whiteboard. However, again, ICT strategies were not used.
3. The teacher uses digital reading material to explain content (TPACK)	The teacher only used her laptop to print the digital reading material beforehand and provided learners with printed copies.

4. The use of CAPS/ATPs (CK). Lesson strategy relevant to CAPS/ATPs (does it apply or relate to these policy documents?)	The lesson content/topic corresponds with the Annual Teaching Plan (literature study week 7-8). The teacher had no lesson plan for this lesson.
5. The teacher uses different reading strategies (PC) discussed in Chapter 2.	The teacher provided synonyms to clarify the meaning of difficult words in the text.
6. Technology that the teacher may have used.	No technology was used during the lesson.
7. Technology aids teachers in the reading lesson (TP)/ Technology is effectively employed in the reading lesson.	No technology was used during the lesson.
8. Teacher experiences challenges when using technology (TP)	No technology was used during the lesson.

Teacher A, observation 2: Reading comprehension

In this lesson (Table 4.10), Teacher A introduced the topic of Generation Z and technology and recapped the previous lesson. She then asked the learners to read a reading comprehension passage and allowed a classroom debate. Afterwards, Teacher A helped learners to pronounce difficult words and provided definitions for unfamiliar words. She then led the class in an activity where they had to identify figures of speech from the passage, and the lesson concluded with a new activity on writing a summary. The observer stopped recording during this portion of the lesson. No technology was used during this lesson.

Table 4.10 Lesson 2 – Teacher A – Observation 2

Teacher A – Observation 2	
Observation schedule	Observation
1. Instructions by teacher on reading.	Learners often wrote the difficult words from the text along with its definition.
2. Teacher 'chalk-and-talk' as opposed to the use of ICTs strategies.	The teacher hardly wrote on the board; however, it was more of a lecture.

3. The teacher uses digital reading material to explain content (TPACK)	No digital materials were used.
4. The use of CAPS/ATPs (CK). Lesson strategy relevant to CAPS/ATPs.	The content taught was in line with the ATP – (reading comprehension week 4 to 5)
5. The teacher uses different reading strategies (PC).	No technology was used. What did the teacher do? Any strategies?
6. Technology that the teacher may have used.	No technology was used.
7. Technology aids teachers in the reading lesson (TP)/ Technology is effectively employed in the reading lesson.	No technology was used.
8. Teacher experiences challenge when using technology (TP).	No technology was used.

Teacher B, observation 1: Advertisement

In this lesson (Table 4.11), Teacher B introduced a topic and distributed handouts. The teacher explained how to analyse advertisements and read slogans and logos. The teacher then played a video that expanded on this topic and had the learners take notes. After the video, the teacher discussed the AIDA principle and provided an example using a Nike jacket. A power outage disrupted the lesson, but the teacher continued by having the learners provide their own examples of the AIDA principle. The lesson ended due to loud noises outside, which signalled the end of the class period. The teacher was then scheduled for an interview with the researcher.

Table 4.11 Lesson 3 – Teacher B – Observation 1

Teacher B – Observation 1	
Observation schedule	Observation
1. Learners make use of pens and workbooks in response to the teacher's instructions.	Very few learners made notes of what was taught during the lesson. In addition, there was no instruction from Teacher B to learners to use pens or workbooks.
2. Teacher 'chalk-and-talk' as opposed to the use of ICTs strategies.	There was a balance between traditional and modern teaching methods. For example, the lesson started as

Teacher B – Observation 1	
Observation schedule	Observation
	an ICT-based lesson, load shedding interfered, and the teacher started writing on the whiteboard.
3. The teacher uses digital reading material to explain content (TPACK)	No digital reading material was used during this lesson.
4. The use of CAPS/ATPs (CK). Lesson strategy relevant to CAPS/ATPs (does it apply or relate to these policy documents	The content taught was in line with the ATP – (reading for comprehension week 6-7)
5. The teacher uses different reading strategies (PC).	Learners had to analyse an advertisement abstractly by "image, font, and the layout", as explained by Teacher A.
6. Technology that the teacher may have used	• Projector was used to display a video on the whiteboard. • The video was played from the laptop. • Speakers were used to enhance the sound from the laptop.
7. Technology aids teachers in the reading lesson (TP)/ Technology is effectively employed in the reading lesson.	The technology used during this lesson was prearranged and set up before the start of the lesson. Teacher B played a video that expanded the skills required to analyse an advertisement. By the facial expression of the learners, the researcher deduced that they had a much better understanding of what advertisements are and how to analyse them.
8. Teacher experiences challenge when using technology (TP).	Never The only problem encountered was load shedding. However, the lesson was not reliant on technology. The teacher could still carry on with her lesson.

Teacher B, observation 2: Reading and analysing a novel

In this lesson (Table 4.12), Teacher B introduced a book to the learners by providing background information about the author, characters, and setting. Next, the teacher asked learners to spell out names for her to write on the whiteboard, and one learner read the biography out loud while the others followed along in their books. The teacher then discussed the book's themes by asking questions based on the highlighted information. Finally, the

lesson ended with the teacher discussing the story's plot. No technology was used during this lesson.

Table 4.12 Lesson 4 – Teacher B – Observation 2

Teacher B – Observation 2	
Observation schedule	Observation
1. Learners make use of pens and workbooks in response to the teacher's instructions.	The learners often had to highlight critical points in the novel. The teacher would instruct learners to highlight and make notes based on the elements of a novel. • Setting • Major characters • Minor characters • Author Themes
2. Teacher 'chalk-and-talk' as opposed to the use of ICTs strategies.	Teacher B constantly wrote on the whiteboard. She has listed the elements of a short story and asked learners to provide answers from the novel itself.
3. The teacher uses digital reading material to explain content (TPACK)	Only printed books were used. The learners read from these printed books instead of PowerPoints, eBooks, and PDFs.
4. The use of CAPS/ATPs (CK). Lesson strategy relevant to CAPS/ATPs (does it apply or relate to these policy documents	This lesson is aligned with the schedule in the ATP. Key features of texts and parts of a book, including literary genres – week 2-3.
5. The teacher uses different reading strategies (PC).	The biography was read out loud voluntarily by one of the learners while the rest followed in their books. Teacher A instructed the learners to circle essential phrases in the book. While the learner read, she found a few isiXhosa names challenging to pronounce, and the other isiXhosa-speaking learners helped her pronounce these names. After reading the biography, the teacher provided an overview of the author's life.
6. Technology that the teacher may have used.	No technology was used.
7. Technology aids teachers in the reading lesson (TP)/ Technology is effectively employed in the reading lesson.	No technology was used.

8. Teacher experiences challenge when using technology (TP).	No technology was used.

Teacher C, observation 1: Analysing a cartoon/advertisement

In this lesson (Table 4.13), Teacher C introduced a cartoon analysis activity to the learners using handouts. The teacher allocated 15 minutes for learners to analyse the cartoon and answer questions based on it. The teacher then introduced an advertisement activity, but the learners struggled with it, because the printout was black and white, and the questions were based on the colour of the advertised product, and the product was sneakers. The teacher attempted to mediate this challenge by verbally explaining the logo's colours. Unfortunately, the teacher did not present a lesson plan, and the objectives were not achieved at the end of the lesson. No technology was used during this lesson.

Table 4.13 Lesson 5 – Teacher C – Observation 1

Teacher C – Observation 1	
Observation schedule	Observation
1. Learners make use of pens and workbooks in response to the teacher's instructions.	The learners completed the written activity at the start of the lesson. Afterwards, the teacher explained the advertisement, and learners had to write the corrections in their workbooks.
2. Teacher 'chalk-and-talk' as opposed to the use of ICTs strategies.	The teacher used no ICTs during this lesson. Instead, the teacher verbally explained how to analyse an advertisement.
3. The teacher uses digital reading material to explain content (TPACK)	No digital reading materials were used. Instead, teacher C only used handouts – pictures of the advertisement – as a resource.
4. The use of CAPS/ATPs (CK). Lesson strategy relevant to CAPS/ATPs (does it apply or relate to these policy documents	The teacher had no lesson plan for this lesson, although it aligns with the schedule in the ATP (reading for comprehension weeks 6-7).
5. The teacher uses different reading strategies (PC).	The teacher stops learners from code-switching in the classroom. For example, one isiXhosa learner tried to explain to her peers in isiXhosa, and the teacher said, "English, please."

Teacher C – Observation 1	
Observation schedule	Observation
	The teacher allowed a debate regarding the topic. This strategy allowed learners to share similar and contrasting ideas.
6. Technology that the teacher may have used.	Teacher C used technology to prepare notes, but no technology was used to teach during the lesson.
7. Technology aids teachers in the reading lesson (TP)/ Technology is effectively employed in the reading lesson.	No technology was used.
8. Teacher experiences challenge when using technology (TP).	No technology was used.

Teacher C, observation 2: Reading and analysing a novel (Mother to Mother)

In this lesson (Table 4.14), Teacher C introduced the elements of a story and had learners list and explain them in their writing books. The teacher asked questions to check the learners' understanding and explained the importance of understanding these elements to understand a novel. The teacher then wrote the terms on the whiteboard and had learners read their answers and accept or modify them for a better description. No technology was used during this lesson.

Table 4.14 Lesson 6 – Teacher C – Observation 2

Teacher C – Observation 2	
Observation schedule	Observation
1. Learners make use of pens and workbooks in response to the teacher's instructions.	Each learner had to provide definitions in their workbooks, and they could skip an answer if they needed help understanding the term. Learners were granted seven minutes to list and define the terms mentioned above. During those seven minutes, Teacher A walked around the classroom to examine the learners' progress.
2. Teacher 'chalk-and-talk' as opposed to the use of ICTs strategies.	The teacher employed no ICT strategies. Teacher C conducted the entire lesson using the whiteboard and narrated the elements of a novel: • Characters

Teacher C – Observation 2	
Observation schedule	Observation
	• Characterisation • Protagonist • Antagonist • Setting • Climax • Theme
3. The teacher uses digital reading material to explain content (TPACK)	Only printed books were used. The learners read from these printed books instead of PowerPoints, eBooks, and PDFs.
4. The use of CAPS/ATPs (CK). Lesson strategy relevant to CAPS/ATPs (does it apply or relate to these policy documents	This lesson is aligned with the schedule in the ATP. Key features of texts and parts of a book, including literary genres – week 2-3.
5. The teacher uses different reading strategies (PC).	One of the learners said, "These are big words." Teacher A responded, "If you stumble across words that are big, pick up or try to determine the root word." The teacher also reminded learners that it is acceptable if they do not know the meaning of all seven terms and may leave it open.
6. Technology that the teacher may have used.	No technology was used.
7. Technology aids teachers in the reading lesson (TP)/ Technology is effectively employed in the reading lesson.	No technology was used.
8. Teacher experiences challenge when using technology (TP).	No technology was used.

Teacher D, observation 1: Analysing a poem (Sonnet 18)

In Table 4.15 below, Teacher D introduced a poem and explained a sonnet to the learners. The teacher then read the poem out loud and asked learners to underline words they did not understand. Finally, the teacher demonstrated how to analyse a poem by following three steps: skimming, identifying unfamiliar words, and understanding the poem to answer the questions. Again, no technology was used during this lesson.

Table 4.15 Lesson 7 – Teacher D – Observation 1

Teacher D – Observation 1	
Observation schedule	Observation
1. Learners make use of pens and workbooks in response to the teacher's instructions.	Teacher D handed out printouts of the poem to all learners. Moreover, learners had to annotate the analysis of the poem on the printout.
2. Teacher 'chalk-and-talk' as opposed to the use of ICTs strategies.	Teacher D then read the poem out loud to the learners while they followed independently. No ICTs were used.
3. The teacher uses digital reading material to explain content (TPACK)	Only printed poems were used. The learners read from these printed books instead of PowerPoints, eBooks, and PDFs.
4. The use of CAPS/ATPs (CK). Lesson strategy relevant to CAPS/ATPs (does it apply or relate to these policy documents	Week 10 – 11 in the ATP includes a review of the literature studies covered in Term 1: • Novel • Drama • Poetry
5. The teacher uses different reading strategies (PC).	Teacher D advised learners that there are three steps in analysing a poem; firstly, you must skim through the poem. Secondly, one must look for words you do not understand and underline them. Furthermore, lastly, you read the poem to understand it and answer the following questions. So, learners need to read the poem thrice to understand it.
6. Technology that the teacher may have used.	No technology was used.
7. Technology aids teachers in the reading lesson (TP)/ Technology is effectively employed in the reading lesson.	No technology was used.
8. Teacher experiences challenge when using technology (TP).	No technology was used.

Teacher D, observation 2: Writing an obituary

In Table 4.16 below, the lesson observed was a writing lesson. The researcher was supposed to observe how teachers teach reading as per the ATP.

The teacher started the lesson by posing a question to learners. The teacher then explained the term “obituary” to learners. Teacher D then wrote the definition of an obituary on the whiteboard. The teacher was informed in the consent form but still deviated from the formal ATP, which required a reading lesson.

Table 4.16 Lesson 8 – Teacher D – Observation 2

Teacher D – Observation 2	
Observation schedule	Observation
1. Learners make use of pens and workbooks in response to the teacher's instructions.	The learners were instructed to do written work only for part of the lesson.
2. Teacher ‘chalk-and-talk’ as opposed to the use of ICTs strategies.	Teacher D lectured throughout the lesson. Only traditional teaching – writing on the blackboard using chalk.
3. The teacher uses digital reading material to explain content (TPACK)	No digital reading or other material was used to explain the lesson content.
4. The use of CAPS/ATPs (CK). Lesson strategy relevant to CAPS/ATPs (does it apply or relate to these policy documents	There was no lesson plan available for the lesson. Moreover, the teacher taught a 'writing and presenting' lesson instead of a 'reading and viewing lesson', which is scheduled on different slots on the ATP. However, the CAPS FET Grades 10-12 English Home Language document states, “weekly teaching plans are offered only as a guideline to teachers and are not intended to prevent teaching methods that might work against the plans as presented.”
5. The teacher uses different reading strategies (PC).	Since this was more of a writing lesson, no reading strategies were applied.
6. Technology that the teacher may have used.	No technology was used.
7. Technology aids teachers in the reading lesson (TP)/ Technology is effectively employed in the reading lesson.	No technology was used.
8. Teacher experiences challenge when using technology (TP).	No technology was used.

4.2.2.1 Conclusion (data set 2)

The observed data were tabulated in two columns, with the first column indicating the specific behaviours and actions the researcher was interested in and the second column indicating what was observed during the reading lessons. The tabulation of the observed data allowed for an organised and easy-to-read presentation of the findings. It also facilitated the identification of any patterns or trends in the participant teachers' behaviours and actions that are analysed in Chapter 5.

The classroom observations revealed that all the participant teachers taught according to the CAPS and ATPs. Additionally, their lessons were focused solely on reading as this was the allocated week for teachers to teach reading according to the WCED's ATP for 2022, except for Teacher D's second observation in which a writing lesson was conducted.

Only Teacher B was observed to use ICTs during her lesson, with a laptop, speakers, and digital projector visible to the researcher. However, teacher A utilised pre-planned reading materials that were prepared using a laptop and the Internet.

By utilising a structured observation schedule and organising the collected data, a comprehensive and methodical examination of the reading lessons presented by the participant teachers was made possible. It provided valuable insights into their teaching approaches and the use of ICTs. In addition, it showed that all teachers taught according to the CAPS and ATPs.

4.2.3 Data set 3: Interview questions and answers

The interviews consisted of ten questions that produced data that observations and policy documents could not produce. This unobservable data was collected by asking open and closed-ended interview questions. In addition, preliminary questions (Table 4.17) provided participants' background information on education and employment history. Table 4.17 below shows the participants' qualifications and how long they had been in the profession.

Table 4.17 Background information of participants

Questions	**Teacher A**	**Teacher B**	**Teacher C**	Teacher D
Teachers' qualifications	• BA in Psychology and English (currently doing PGCE).	• BA degree • BA Honours (Psychology) • PGCE (Health Education)	• B. Ed degree in English and Life Orientation	• BA, HDE
Experience in teaching	Two years	Ten years	Five years	25 years

Years spent at this school	Two years	Ten years	Four years	Five years

The ten interview questions the researcher posed sought to gain insight into the teachers' perceptions of the effects of using ICTs in teaching reading specifically and to understand their experiences and strategies for teaching reading with or without integrating ICTs into their teaching. The interviews were conducted to explore the perceptions of participant teachers regarding the use of ICTs in teaching reading. Semi-structured individual interviews were conducted with four participant teachers who had experience in teaching English. Tables 4.18 to 4.27 below include the verbatim responses provided by the participants.

During the research, the researcher had to rephrase some of the questions or ask additional questions if the participants did not understand them. By rephrasing questions as needed, the researcher could ensure that the participants clearly understood what was being asked and could provide accurate and helpful information.

Question 1

For the first question, the researcher asked participants to briefly explain their understanding of the use of ICTs in the English classroom. Specifically, the researcher asked participants to provide their thoughts and insights on how ICTs can be used for teaching in the English classroom.

Table 4.18 Semi-structured individual interview Question 1

Question 1: **Briefly explain your understanding of the use of ICTs in the English classroom.**			
Teacher A	**Teacher B**	**Teacher C**	**Teacher D**
I've never taught with technology before. The closest I've come to using technology in my classroom is playing a song through a speaker on my laptop, that's the closest thing to listening comprehension.	ICT seem as a technology involvement within your lesson, integrating technology to make the lesson a bit more fun for our kids. It's also to advance your lesson to make it more interesting and appealing to our learners. And it can involve different equipment, for example, PowerPoint presentation, using audios in class, and	ICT, Information Communication Technology, yes. I haven't explored it to the best of my ability yet because at our school, there are not enough resources. And given the fact that our learners are slow readers and not the greatest readers, they still read with a hand. It's a lot to do with reading and physical reading, following.	It would be useful if we had instruments that would be useful because it would make the time of the lesson shorter. And particularly can also improve the understanding because they will see what we're talking about visually.

	presenting a video from YouTube.		

The answers presented by participants suggest that they have limited experience using technology in the English classroom. One participant mentioned using a laptop to play music as the only instance of technology integration in his/her classroom. Another participant mentioned using PowerPoint presentations, audio materials, and videos as ways to incorporate technology into his/her lessons to make them more interesting and appealing to the learners. The third participant mentioned the lack of resources at their school and the importance of reading and physical materials in their teaching. The fourth participant highlighted the potential benefits of using technology, such as making lessons shorter and improving learners' understanding through visual aids. Overall, the answers suggest that while participants see the potential values of using ICTs in the English classroom, they have limited experience doing so due to lack of resources and other constraints.

Question 2

For question two, the researcher asked participants if they had used digital technologies in the English classroom and, if so, what impact it had on their pedagogy. The researcher also asked participants who had used digital technologies in the English classroom what impact or difference it could have made to their pedagogy.

Table 4.19 Semi-structured individual interview Question 2

Question 2: **Do you or have you made use of digital technologies in the English classroom? If yes, what impact has it made on your pedagogy (if any)? If not, what impact/difference could it have made to your pedagogy?**			
Teacher A	**Teacher B**	**Teacher C**	**Teacher D**
It's different than me usually standing in front and reading or them taking notes down on the board. So that got them more interested in the lesson. It was also nice to not do the same thing over and over like repetitive, constantly just reading from a piece of paper.	I would incorporate a movie or certain parts of the movie to play to the learners as well as audios that's quite helpful, where we get the audience of the novel or the drama as well as learners tend to be quite bored with one's voice. So, the audios also assist in that regard. Teachers need to start hoping themselves to use technology more in classrooms, but we don't really have the platform to really do lessons where ICT is fully integrated.	I normally do cartoons and advertisements are what I use. When I use the data projector and laptop. So, learners get a greater understanding of what the advertiser is trying to convey the move at the data set using various colours. The facial expressions of characters convey a particular message.	No. Sometimes I use my laptop if we do a poem. For instance, I was doing the poem with Grade 12, Still I rise. What I did was, I wanted them to hear the poet herself when she was reciting the poem. I would use the laptop, and I would use the speakers. We can do it at Grade 10

	We don't even have one smart board at our schools where other schools maybe have in each classroom. And I think that must be really incorporated at our school with that service, or that platform becomes more available.		level, but I have not. It stimulates the learners also because they will be hearing a different voice.

In their responses to question two, participants in the study shared that using digital technologies in the English classroom has made their lessons more engaging and interactive for students. They reported using a variety of digital resources, such as movies, audios, and advertisements to supplement their teaching and provide a different perspective to learners. Some participants mentioned challenges with access to technology, such as a lack of smart boards or laptops in their classrooms, which limited their ability to fully integrate digital resources into their teaching. Overall, participants noted that using digital technologies in the English classroom had a positive impact on student engagement and understanding of the material.

Question 3

In question three, the researcher asked participants if there are any digital resources that their learners have found interesting that they can use in their pedagogy. This question aimed to gather information about what types of digital resources effectively engage students and potentially incorporate them into future lesson planning.

Table 4.20 Semi-structured individual interview Question 3

Question 3: **Are there any digital resources that your learners have found interesting that you can employ in your pedagogy?**			
Teacher A	**Teacher B**	**Teacher C**	**Teacher D**
I won't say that they found it interesting really because none of them has come up to me and said can't we do this. But I found myself there are different apps that I know about that Quizlet I think is wonderful that way I could start up the questions based on the literature. So they	The audio and the movies, we usually tend to share that via WhatsApp to our learners as well. Many times they've come to me even to notice the USB for the integral and maybe review it at home. So that actually helps with records with them, as well as other learners.	I definitely think Kahoot would be a very good game, shall we call it the game to play with his kids because they like games because they like technology.	If we had the Wi Fi and the resources here we could use them because they could they could work on their own.

have to also be something that would be nice to do and fun for the kids as well.			

For question three, participants in the study mentioned a variety of digital resources that their learners have found interesting, including Quizlet, audio, movies, and resources shared via WhatsApp and Kahoot. Some participants noted that their learners have requested to review certain resources at home. However, some participants mentioned challenges with access to technology and the Internet, which limited their ability to use certain digital resources in the classroom.

Question 4

The researcher asked participants to name any digital resources they use in the English classroom. This question aimed to gather information about the types of digital resources that teachers are using in their teaching and how they are using them.

Table 4.21 Semi-structured individual interview Question 4

Question 4: **Name any digital resources that you use in the English classroom.**			
Teacher A	**Teacher B**	**Teacher C**	**Teacher D**
Using social media in lessons can be fun but there is a line that you have to draw. It can get out of hand if you're bringing in TikTok and social media and so forth. But I definitely feel like it is very useful social media for teachers.	It will be the novel and from audio that will download the audiobook, yes. And then also, video presentations, PowerPoint presentations on the various components of the language aspects. So past telematic lessons, and then the movie that are also make use of.	Oh, various things, there's visuals, auditories, sounds, these little match the blocks match columns. What do I normally insert as well, I do a jumble up of my lesson at the end of my PowerPoint, they then structure the way it has been taught to them.	Speakers and laptop.

For question four, participants mentioned using a variety of digital resources in the English classroom and reiterated the use of social media, audiobooks, video presentations, PowerPoint presentations, movies, and visuals. Some participants also mentioned using speakers and laptops as tools for delivering their lessons. These teachers are incorporating a range of digital resources to engage and enrich the learning experience for their learners.

Question 5

The researcher asked participants how well they think the use of specific tools or strategies (as mentioned in a previous question) would enhance their pedagogy. This question aimed to gather insights about the effectiveness of different digital resources and strategies in improving learning and teaching outcomes.

Table 4.22 Semi-structured individual interview Question 5

Question 5: **How well do you think the use of these tools/strategies will enhance your pedagogy (as mentioned in point three above)?**			
Teacher A	**Teacher B**	**Teacher C**	**Teacher D**
The curriculum is easy to find because everything is online, you just type in combinations and booms comes up. Some of the textbooks that we have, especially at this school is very outdated, and sometimes it's not even up to the caps curriculum as well. So it'll be much easier if I could be using my laptop and then just boom, it goes onto my whiteboard, my PowerPoint, or I could open a YouTube video, I could open a document online and so forth, but didn't make it much easier.	If you incorporate all those particular platforms, you did obviously enhance your teaching ability as well. You also learn through using those platforms, because you really need to search and do some research first before you expose the learners to it. So the fun aspect, but you know, learning through that was also very important.	PowerPoints are my digital platforms, and intrigue the learners a lot more. It makes my learners more interested in kids who generally are not interested in school. They like the technology being used the colour, the sound, the various fonts and things, the PowerPoint presentation with your words jumped in and all of those, they like all of that.	I think it would improve the results because it would improve the understanding and also it would catch the interest of the learners okay if we use ICTs because most of their attention span is very low. And these learners today they tend to technologically so I think that would it would help us a lot in improving results.

For question five, participants all agreed that the use of digital resources and strategies could enhance their pedagogy. They reported that using these tools can make it easier to access and deliver curriculum material, improve teaching ability through learning and research, and engage learners who may not be interested in traditional methods of teaching. Some participants mentioned the benefits of using ICTs to catch the attention of learners who may have a low attention span and to improve understanding and results.

Question 6

The researcher asked participants which ICT strategies or tools they would use to enhance their methods of teaching reading/literature. This question aimed to gather information about

how participant teachers are using technology to support the teaching of reading and literature in their classrooms.

Table 4.23 Semi-structured individual interview Question 6

Question 6: **Which ICT strategies or tools would you use to enhance your method of teaching reading/literature? Explain your answer.**			
Teacher A	**Teacher B**	**Teacher C**	**Teacher D**
The audiobooks that could be nice as well, because we could play the audio while we're actually reading the book or even watch the play with a movie perhaps on the screen while we are reading the novel. I think those types of things will help them when it comes to reading, some of them find it very difficult. Oh, this is what we are looks like this is what Romeo looks like, this is what Juliet looks like the subtitles helps them to what are they reading, some of them find it very difficult.	You know, the other day I saw on the ICT site that this is a workshop that kind of began to happen in next term, introducing videos in your classroom. I'm quite interested in that I've actually applied for that course. So and also the so in introducing video classroom that was one of the so I'm interested to know how one can actually use the video is maybe linked to dramatizing or incorporating certain scenes of that particular reader or that particular drama that you're doing and incorporating it into a video.	When reading the learners come across words that are unfamiliar to them on your tablet that you're reading from, you can go and look up a word on that tablet without having to because we have a lack of resources there's no in my classes I don't have dictionaries at all for each learner so a tablet would be a perfect device to use. Google classroom with kids or you know uploaded onto a site where learners can gain access to it. So the tablet definitely would be something I would like to make use of.	Reading out loud, get one of the learners to read, I will read the passage. That is what I normally do. But I read the passage then pass on to one of the learners so that they can get the sense of the tone and pronunciation of the voice by using technology.

For question six, participants in the study revealed a variety of ICT strategies and tools to enhance their method of teaching reading and literature. These included audiobooks and videos and tablets for accessing and delivering material. Some participants mentioned the benefits of using ICTs in the context of supporting learners who may struggle with reading, such as by providing access to resources like dictionaries. Others mentioned their interest in using video in the classroom or exploring workshops on incorporating technology in teaching. It seemed that participants were open to using a range of ICT strategies and tools to support the teaching of reading and literature in their classrooms.

Question 7

The researcher asked participants to name two strengths and two weaknesses in the use of ICTs in English teaching. This question sought a balanced perspective on the potential benefits and challenges of using technology in teaching English.

Table 4.24 Semi-structured individual interview Question 7

Question 7: **Name two strengths and two weaknesses in the use of ICTs in English teaching.**			
Teacher A	**Teacher B**	**Teacher C**	**Teacher D**
Some older teachers might find it difficult to learn how to work with technology. Obviously, load shedding that we know is happening within the country. We experienced that a few months ago we Wi Fi was damaged it was difficult to print it was difficult to log on to certain things.	The audio books also help students memorize some of the lines as well. So the visual aspect gets covered in that regard. Also, those learners if you do the audio, remember, we as teachers we speak so that's already audio that if you use the audio books, it's obviously paper inclined for those letters, audio inclined to really grasp and really, maybe memorize some of the lines as well.	We are going into the fourth industrial revolution, or we are in the 4th industrial revolution already. And that is the time that we find ourselves in technology. So it will definitely be so beneficial to these learners, because it will it will prepare them for the world of work once they are done.	It would save me as a teacher from talking and it will also be interesting to the learners they will be hearing a different voice and also if the person that is just talking on the video is of different racial group that also is part of interest for them. Wi Fi coming down can be a weakness.

Participant teachers identified several strengths and weaknesses in the use of ICTs in English teaching. Some strengths mentioned included the ability to engage learners, provide access to a range of resources, and prepare learners for the 4th industrial revolution. Some of the weaknesses mentioned included challenges with access to technology and the Internet, difficulties for older teachers in learning how to use technology, and the potential for technology to distract from the learning process. Participant teachers recognise the potential benefits of using technology in English teaching, but also acknowledge the challenges and limitations that can arise.

Question 8

The researcher asked participants what barriers or challenges they foresee they might experience in using digital technologies or tools in teaching reading in the EHL class. The question intended to gather information about the potential obstacles that teachers may face while attempting to incorporate technology into their teaching of reading in English.

Table 4.25 Semi-structured individual interview Question 8

Question 8: **What barriers/challenges do you foresee you might experience in using these digital technologies/tools in teaching reading in the English Home Language class?**			
Teacher A	**Teacher B**	**Teacher C**	**Teacher D**
The first thing I think that comes up is whether or not a teacher can actually work with technology. For example, I know even myself I don't know, you know, technology as I think I wouldn't be some older teachers that obviously also wouldn't be too open to working with technology. So that might be a barrier they won't be able to be open enough to try or learn new things. I think the main thing is just that some people think technology is obviously new. So, some teachers might find it difficult to have to come to terms with that as well as obviously load shedding that we know is happening within the country. We experienced that a few months ago we Wi Fi was damaged it was difficult to print it was difficult to log on to certain things and then obviously portions of the problem.	When using those audios for example, you as I mentioned that as a teacher, you will still have to facilitate the lesson because they might be a learner might not understand some content of the ICT platforms that you're using. So you will have to simplify it maybe was beginning with different learners or you will have to explain it from a different angle to really bring it across to all remember inclusive education is important so you as the teacher will still have to facilitate because that can be seen as a barrier we all understand maybe really understand everything clearly.	The more we use the device, the more comfortable they become, we will eliminate that barrier of not understanding. So because they are not exposed to technology that are exposed to these devices, they are going I'm going to lose them because they're not going to know how to operate the device and how to juggle between various platforms, should I make use of different ones?	We have load shedding The lesson going to cut in half. Language barriers, if a person with a different accent speaks on video or audio, you would have to constantly stop and explain.

For question eight, participants in the study identified several barriers or challenges that they foresee they might experience in using digital technologies or tools in teaching reading in the EHL class. These include difficulties with technology, the need to facilitate and explain

material, lack of exposure to technology, and technical issues such as loadshedding and language barriers.

Question 9

The researcher asked participants how they can determine whether an ICT-integrated lesson was successful or not. The researcher asked this question to gain insights about the methods that teachers use to evaluate the effectiveness of using technology in their teaching.

Table 4.26 Semi-structured individual interview Question 9

Question 9: **How can you determine whether an ICT-integrated lesson was successful or not?** **Question rephrased: What indicators will show that lessons were successful?**			
Teacher A	**Teacher B**	**Teacher C**	**Teacher D**
I guess I can see can I see it in the results or feedback of the lesson, recapping whether or not the kids fully understood what was happening asking them questions whether or not they can give feedback that consolidation	We can maybe do a comparison where you maybe just had a normal traditional lesson compared to ICT listen and then look at results. So assessment, for example, formal assessment, where you can pay to win the lesson. Okay, using social ICT platforms and the additional platforms. So it will be the assessment the success of the learning that particular term. And then also, feedback from learners could also determine it worked or not only that was successful.	Excitement. Learn excitement when a teacher poses questions, and they can speedily respond, quickly respond to you, learning engagement, actively active participation. Technology is so cool, because, you know, I'm thinking about they would say, “Miss the slide where you add the snake on or the PowerPoint slide where there was a flower, in that point in that slide.”	By testing them. Because I would have questions but then after the lesson, then if they can answer the questions that means they have understood.

For question nine, participant teachers suggested several ways to determine whether an ICT-integrated lesson was successful or not. Their answers included evaluating results and feedback, comparing traditional and ICT-integrated lessons, gathering feedback from learners, and assessing student engagement and participation. Participants mentioned the importance of testing learners to ensure that they have understood the material. Participant teachers recognise the importance of evaluating the effectiveness of using technology in their teaching and use a range of methods to do so.

Question 10

The researcher asked participants how they could assess or measure whether the lesson objective was achieved using ICTs. This question aimed to gather information about the methods that participant teachers use to determine whether specific learning goals were met when using technology in their teaching.

Table 4.27 Semi-structured individual interview Question 10

Question 10: **How can you assess/measure whether the lesson objective was achieved using ICTs?**			
Teacher A	**Teacher B**	**Teacher C**	**Teacher D**
To be able to teach like two three lessons in one day really? For me like it was technology will make it much easier and you'll be able to analyse different things because you're using different YouTube videos.	So maybe doing a questionnaire with the kids after the specific lesson. A Questionnaire will really ask the learner for feedback regarding the lesson and that is obvious value paying the way forward within the particular platform.	Maybe within Kahoot in the game itself. So if they were successful in the Kahoot, they were able to answer the questions without anyway, if they if they do well in the code, that way, I can tell that I have been successful in my teaching, because clearly they have grasped what I have shared from my presentation and that is what I have shared or conveyed using the presentation that now assisted in assisting or editing in order to also code so these are what you're seeing the results will show or prove to you via Kahoot as the ICT platform.	If the learners can write a paragraph that means they can visualize what they write which means that they can identify with it.

For question 10, participant teachers suggested various ways to assess or measure whether the lesson objective was achieved using ICTs. These included using questionnaires, testing students through interactive Internet applications like Kahoot, and evaluating student writing. Some participants mentioned the importance of analysing the results of these assessments to determine whether the learning goals were met.

4.2.3.1 Conclusion (data set 3)

In conclusion, the semi-structured individual interviews with the four participant teachers shared their perceptions regarding the effects of teaching reading using ICTs. The participants shared synchronised opinions on the lack of technology they are experiencing at their school, which may hinder their ability to use ICTs in reading instruction effectively. Additionally, the teachers reported that many of their students need access to technology at home due to socio-

economic reasons, further limiting their ability to engage with ICTs in the classroom. One of the participants suggested that professional workshops on the use of ICTs in education would be beneficial in helping teachers overcome these challenges and improve their ability to integrate technology into their instruction.

The use of open and closed-ended questions allowed the researcher to gather detailed data that was not obtainable through policy documents and classroom observations. This data provided a deeper understanding of the participants' experiences and perspectives on the topic, allowing for a more comprehensive analysis of the effects of using ICTs in teaching reading.

4.3 Conclusion

Chapter Four presented the data collected based on the research and sub-research questions. The raw data afforded the researcher an overview of what was collected and allowed the researcher to sort through the data and make inferences. Firstly, document analysis, data set one, provided insight into what policymakers/curriculum specialists expect from teachers in the classroom and provided guidelines and teaching strategies that teachers may use. Secondly, classroom observations, data set two, represented how the participants implemented the curriculum. Lastly, the semi-structured individual interviews, data set three, offered teachers the opportunity to justify their pedagogy during their lessons, the methods they preferred to use, and any expectations from using ICTs when teaching reading. These data collection instruments assisted the researcher in grouping the data into categories and finding coded themes.

Chapter 5 combines these data sets, and their significance is extracted to answer the research questions. The analysis of the data sets mentioned above, document analysis, classroom observations, and semi-structured individual interviews with participant teachers is executed through the lens of the theoretical frameworks used for this study as set forth in Chapter 2.

CHAPTER 5

DATA ANALYSIS

5.1 Introduction

In this chapter, the researcher presents the analysis of data which aims to examine how the integration of ICTs in teaching reading at the Grade 10 level impacts instructional practices. The data analysis process is explained while considering the data collection methods identified in the previous chapter. The combined theoretical frameworks, TPACK and SAMR, outlined in Chapter 2 are epitomised and used to clarify the primary research question and the three sub-questions: (1) How does the integration of ICTs in teaching reading at the Grade 10 level

affect instructional practices? (1.1) How could ICTs be used in teaching reading? (1.2) What are teachers' experiences with ICTs in teaching reading? (1.3) How could teachers be supported to use ICTS in the teaching of reading?

The data was analysed using the respective data sets (document analysis, classroom observations, and semi-structured individual interviews) to understand the participants' experiences using ICTs in teaching reading in the Grade 10 classroom. The document analysis assisted the researcher to identify what the WCED expects from teachers. The observations showed how teachers delivered the curriculum set forth by the WCED and provided the researcher with data that shed light on how ICTs are used to teach reading in the English classroom. Semi-structured individual interviews revealed the participants' perceptions about the use, benefits, and constraints of using ICTs.

5.2 Data analysis

The data analysis process started by analysing the collected data from the semi-structured individual interviews and classroom observations and juxtaposing these with the policy documents.

5.2.1 Policy documents

In the analysis of policy documents, the researcher set out by identifying relevant policy documents and then pinpointing policies and approaches relevant to the research objectives. These policy documents were reviewed to gather information about the policies and guidelines for teaching with technology and teaching reading in South Africa.

The researcher analysed the policy documents to identify common themes related to teachers' pedagogy when teaching reading. The first step was to read through the documents carefully and note any key points related to teaching reading. The researcher used different colours to highlight and annotate important tables and concepts.

The second step was to code the data by identifying specific categories and themes within each policy document and assigning each table or concept to one of these categories. Identifying specific categories and themes allowed the researcher to see which themes were most prominent in the policy documents and how they related to teachers' pedagogy when teaching reading.

Finally, after the researcher collected and coded the data from the policy documents, the data were analysed for common themes and connections to teachers' pedagogy when teaching reading. This process was concluded by identifying patterns or trends in the data and examining how different categories were related.

5.2.2 Classroom observations

The researcher recorded the data for classroom observations by taking notes and audio-recording the lessons. However, transcription was not required for the audio; it was only used as a reference point for the researcher to expand the handwritten notes at a later stage. The researcher noted the participant teacher's date, time, and name, along with the behaviour, approaches, and interaction with resources during the classroom observations.

In this study, the researcher used a pre-determined observation schedule (cf. Appendix C) to code and analyse the data collected from classroom observations. The observation schedule included categories for the actions and behaviours of the participants under investigation, and the researcher used these categories to interpret the data and determine if the participants fit the codes listed in the schedule.

After completing the classroom observations, the researcher studied the data on each observation schedule to search for patterns and trends among the four participant teachers. This involved identifying common actions coded into the same categories or examining how teachers' actions differed in the categories they fell into. The researcher also looked for connections between the teachers' actions and the research questions and hypothesis being studied.

To interpret the data, the researcher considered the context in which the classroom observations occurred and the meaning behind the teachers' actions and behaviours. This involved considering the policy documents and the theoretical frameworks – TPACK and SAMR – on which the study was based.

5.2.3 Interviews

Interview data was used to create themes by identifying and grouping common views that emerged from the data. Firstly, the researcher transcribed the audio-recorded interviews using transcription software to transcribe the audio automatically. The researcher, however, still had to manually listen to the recordings to rectify overlapping speech, mispronounced words, and varying accents. Secondly, the researcher coded the data, identifying and annotating keywords and phrases from the interview transcripts. Thirdly, common themes were identified. The keywords and phrases with similar or related meanings were then grouped. Finally, for the researcher to have done this, the coded data had to be tabled (cf. Table 5.1), and the patterns and trends discovered were used to group the data into

categories.

As a final step, the data collected from the three data sources were compared and combined. The combined data results were used to create an organised table of themes (cf. Table 5.1).

The researcher examined the relationships and discrepancies between the results and used the triangulated data to provide answers to the research questions.

Table 5.1 displays the themes, categories, and codes extracted from the semi-structured individual interview data. The researcher used colour highlighters to indicate particular script sections and emphasised phrases matching the codes. Each code was written in a specific colour, and corresponding phrases were highlighted using the same colour. As the researcher examined the data, relevant information was sorted and grouped to develop categories. These categories were further combined based on similarities to form themes. The process involved a thorough data analysis to identify key patterns and insights related to teaching approaches, opportunities for development, and ICT-related challenges.

5.3 Discussion of themes

In the previous section, the data analysis identified three key themes related to the use of ICT in teaching English reading. The first theme is the importance of incorporating ICT into the teaching approach, which highlights the need for teachers to adapt their pedagogical methods to incorporate technology effectively. The second theme is development opportunities, emphasising the need for ongoing professional development to help teachers build their skills and confidence in using ICT tools and platforms. The third theme is ICT-related challenges, which explore the various obstacles teachers face when integrating technology into their classrooms, such as a lack of resources or technical issues. The following section will discuss each of these themes in greater detail to provide a more comprehensive data analysis.

Table 5.1 Themes identified from the datasets

Codes derived from the interviews	Categories	Themes
• I know about Quizlet • TikTok • Bringing social media into your lesson • I make use of audio • the telematics that I use as well • I still believe in giving the page for the child to read with a finger to follow • PowerPoint • I use my laptop	• ICT integrated lesson • Preferred Teaching Method	Teaching approach
• Visuals can improve the learners' understanding • Teachers need to start using technology more often • I can share resources via WhatsApp • Playing games using technology • There's an E-Learning site in the WCED portal • The use of social media • The use of a document online as it is more updated than old textbooks • I saw an ICT workshop that I want to attend. • The tone and pronunciation of the voice by using technology • Playing a movie of the book • Technology benefits learners as it prepares them for the world of work • Technology allows you to teach two or three lessons in one day	• Benefits of using ICTs • Professional development	Opportunities for development
• I could or was never able to use any of the computers or projectors • The projectors are not compatible with my laptop • There is no technology at the school • We have two projectors that we need to share with the entire staff • We do not have smartboards • If we had Wi-Fi and resources • There is a lack of resources; I don't have dictionaries • Learners might not understand the content of the ICT platforms being used • Loadshedding (powercuts) can influence lessons • Using videos presented by other people causes language barriers/understanding their accents can be difficult • When Wi-Fi was down, we could not print nor log on to the computers to access our resources. Learners might not be able to operate ICT devices/platforms.	• Lack of resources • Access of devices • Impediments to ICT Integration	ICT-related challenges

5.3.1 Teaching approach

According to the CAPS FET Grades 10 to 12 EHL document, teaching methods that motivate learners to get involved in posing and responding to questions and actively participating conversations will contribute to fostering their ease and confidence in tackling formal oral tasks and activities. The approaches to language instruction outlined in these documents are text-based, communicative, integrated and process orientated (South Africa. Department of Basic Education, 2011a:16). According to the dataset, the three teaching approaches that policymakers advise teachers to employ are:

- The text-based approach.
- The communicative approach.
- The integrated and process-orientated approach.

These approaches are discussed in detail in Chapter 2, as part of section 2.4 by the DBE (2011:22).

During the semi-structured individual interviews (data set 2), the teachers informed the researcher of their preferred teaching methods. These methods were categorised according to the three teaching approaches recommended by policymakers listed above. Teacher C states the following:

> *I have not explored technology at its best because I still believe in giving the page for the child to read with a finger to follow. Additionally, I use the data projector and laptop to analyse an advertisement so you* [the learners] *get a greater understanding of what the advertiser is trying to convey using various colours.*

Teacher C followed the text-based approach as the DBE (2011:16) (cf. data set 1) states that learners acquire the ability to analyse texts through critical interaction. Authentic texts are the primary source of material and context for communicative and integrated language learning and teaching (cf. South Africa. Department of Basic Education, 2011:16). According to Teacher C, this is precisely what he/she implemented, as he/she provided the “authentic texts” to learners for them to interact with the text by reading the texts with their fingers. Teacher C used technology by incorporating an additional technological resource (data projector) to enhance the understanding of the reading piece.

On the other hand, Teacher A's approach differed from the "authentic texts". Teacher A provided insight on his/her preferred teaching reading approach:

> *It'll be much easier if I could use my laptop and then just boom, it goes onto my whiteboard, my PowerPoint, or I could open a YouTube video or a document online. My work would be much more updated rather than using the same old textbooks that have been around since the 90s.*

The rationale behind Teacher A's approach is supported by what was discussed in Chapter 2, section 2.7.2, by Kihoza, Zlotnikova, Bada, and Kalegele (2016:112-113), which stated that transitioning from traditional teaching methods to blended learning which combines traditional

with some online technology-aided learning. Teacher A's approach partially conformed to the integrated and process-orientated approach; when learners read and generate oral and written materials, they apply the process-orientated approach. The learners participate in various stages of hearing, speaking, reading, and writing (cf. DBE, 2011:16).

Although the DBE does not state it, the various stages that learners participate in as part of the process-orientated approach could include the use of ICTs. To substantiate this claim, during the classroom observation, Teacher B played a video explaining the skills required to analyse an advertisement. Teacher B instructed the learners to make notes from the video while the presenter taught the AIDA principle (subtitles were included). The learners were quite intrigued by the video, and the researcher noticed comprehension in their facial expressions and the way they nodded as opposed to the reaction they displayed when the teacher explained. This might be because most of them were curious about the visual displayed on the whiteboard, which may be distracting. Teacher A then expanded on what the presenter had explained. All four processes, hearing, speaking, reading, and writing, were implemented in this lesson.

During the interview, Teacher B was asked whether there are any ICT strategies or tools that he/she might use to enhance her approach to teaching reading, and her response was:

> *I saw on the WCED's website that there is a workshop introducing videos in your classroom next term. I'm quite interested in that I've applied for that course. Introducing video classroom was one of the so I'm interested to know how one can use the video is maybe linked to dramatising or incorporating certain scenes of that particular reader or drama that you're doing and incorporating it into a video.*

The extract above relates to Chapter 2, section 2.4, which shows that Lin, Lee, Wang, and Lin (2016:54) investigated the influence of subtitles and electronic note-taking in the multimedia learning environment. They discovered that their participants comprehended better when subtitles were used in multimedia, such as movies and videos.

The extract of Teacher B and the in-text reference to Lin et al. (2016:54) are related as they both involve multimedia, specifically videos, to enhance learning and comprehension. The extract of Teacher B discusses her interest in a workshop that introduces videos in the classroom and how incorporating certain scenes into a video may enhance her teaching approach. This suggests that she sees the potential benefits of multimedia, such as videos, to enhance student learning.

The in-text reference to Lin et al. (2016:53) investigates the influence of subtitles and electronic note-taking in the multimedia learning environment and how they can improve comprehension in multimedia such as movies and videos. This research provides evidence that multimedia, when used effectively, can enhance learning and comprehension.

These two pieces of information suggest that multimedia, such as videos, in the classroom can be a powerful tool for enhancing learning and comprehension. The research of Lin et al. (2016:50) provides evidence for the effectiveness of using subtitles in videos, while Teacher B's interest in incorporating certain scenes into videos suggests that she recognises the potential benefits of using multimedia in her teaching approach.

5.3.2 Opportunities for development

Drawing on the findings of Nicolaou, Matsiola, and Kalliris (2019:13) in Chapter 2, it was revealed that the integration of ICTs in the classroom can enhance motivation and foster perceptual abilities. In addition, Koehler and Mishra (2006:1019) contend that teacher training and professional development for teachers may be revolutionised by a theoretical framework that is conceptually based and addresses the interaction between technology and teaching. Consistent with Koehler and Mishra's (2006:1019) ideology, the DBE (2015:20) suggests that an effective learning and teaching framework comparable to TPACK supported by digital tools and resources can improve teacher pedagogy.

According to the DBE (2015:20), there are three key stages of professional development: first, understanding the learning potential of technology (Technological Knowledge); second, understanding how to educate in the given circumstances/conditions (Pedagogical Knowledge); and third, understanding the topic matter (Content Knowledge). This follows the key development stages discussed in Chapter 2, Section 2.1.2.1, where Dean, Pascoe, and Le Roux (2021:7) cite their research in Africa, revealing four emerging software/e-learning tools for educators as potential teaching methods for reading, such as Graphogame, ABRACADABRA, Reading Races, and Chassymo. To start using these e-learning tools, teachers need to follow the three key stages of development for teaching with technology, as pointed out in Chapter 2 by Dean, Pascoe, and Le Roux (2021:7).

5.3.2.1 Knowledge for effective ICT use

As part of the theoretical framework used in Chapter 2, Voogt and McKenney's (2017:70-71) study is referenced to describe how TPACK is used to interpret how teachers need to effectively teach using technology, as outlined by Koehler (2012). Voogt and McKenney (2017:70-71) explain Technological Knowledge (TK) in Section 2.6.1 of Chapter 2 as being informed about hardware and software, which is crucial for teachers to understand the options and use them effectively. During the semi-structured individual interviews, Teachers A, B, and C shared their perspectives on using ICTs with or without training.

Teacher A:

> *The first thing that comes up is whether or not a teacher can work with technology. For example, I know even I don't know technology. Some older teachers also wouldn't be too open to working*

with technology. So that might be a barrier they won't be able to be open enough to try or learn new things. The main thing is that some people think technology is obviously new. So, some teachers might find it difficult to accept that.

Teacher B:

If you incorporate all those particular platforms, you also enhance your teaching ability. You also learn through using those platforms because you need to search and do some research first before you expose the learners to it.

Teacher C:

The more we use the devices, the more comfortable they become, and we will eliminate that barrier of not understanding. So, because they are not exposed to technology that is exposed to these devices, I'm going to lose them because they're not going to know how to operate the device and how to juggle between various platforms.

The responses from Teachers A, B, and C are related to using ICTs in teaching and how teachers can effectively incorporate technology in their classrooms. The theoretical framework used in Chapter 2 references Voogt and McKenney's (2017:71) study to explain how TPACK is used to interpret how teachers can effectively teach using technology. Voogt and McKenney (2017:71) describe TK as crucial for teachers to understand the options available to them and use them effectively. In the semi-structured individual interviews, Teacher A expresses that some teachers may struggle with using technology due to their age or lack of experience, while Teacher B highlights the importance of researching to enhance teaching ability when using technology. Teacher C emphasises that the more teachers use devices, the more comfortable they become, and this can help to eliminate barriers to understanding and effectively using technology.

5.3.2.2 Integration of technology in teachers' pedagogy

Considering strategies and digital resources used within the teacher's given context, Teacher B shares her view:

We usually tend to share the audio and the movies via WhatsApp with our learners as well. They've often come to me even to notice the USB for the integral and maybe review it at home. So that helps with records with them, as well as other learners (Teacher B).

Teacher B's view on using audio and movies through WhatsApp with learners and reviewing it at home links to the WCED's definition of pedagogy as the strategy and digital resources used by the teacher based on their and the learners' contexts, which is part of the *Professional Development Framework for Digital Learning*. Pedagogical Knowledge is the interaction of technology and teaching, which can potentially alter the practice of teacher education and professional development. In the *Professional Development Framework for Digital Learning* (cf. data set 4.3.1), the DBE (2015:6) defines pedagogy as the strategy and digital resources used by the teacher that will be the outcome of an analysis of the teacher's and learners' contexts. The DBE (2015:20) concluded that this type of development refers to "knowledge of how to teach in their given context". Teachers need to use their Technological Knowledge and

integrate it with their Pedagogical Knowledge, as implied by Koehler and Mishra (2006:1019) (cf. Section 2.6.1).

Additionally, Teacher B uses WhatsApp as the "school's social network". The DBE (2015:46) states that, to ensure professional growth, teachers must adopt an inquisitive mindset when it comes to the educational benefits of using digital tools and resources, such as creating a professional learning network through the use of social media tools. Hence, pedagogical is the method through which learners are led to learning (cf. WCED, 2015:6) (cf. data set 1). In Chapter 2, Section 2.1, the researcher noted that Tsitsia, Safo, Doyi, and Kabbah (2021:25) discovered in their study that students mostly utilise ICTs for research, presentations in class, and communication via the school's social network.

This stage concentrates on the conventional classroom setting and how teachers develop their way of teaching with the use of hardware and software, as Koehler and Mishra (2006:1019) articulate in Chapter 2, Section 2.6.1, Knowing how to use technology is not the same as knowing how to teach using technology. Consistent with their statement, they believe that a conceptually-based theoretical framework, such as TPACK, about the relationship between technology and teaching, can potentially alter teacher education conceptualisation and practice. As reported in Chapter 2, Section 2.6.1, Voogt and McKenney (2017:70-71) contend that teachers must understand how to employ technology-rich curricular materials to use ICTs in pedagogically appropriate ways to achieve learning in certain curriculum areas.

5.3.2.3 Teacher knowledge of English Home Language

Teachers are guided by the CAPS and ATPs which steer the implementation of content during learning and teaching. The DBE (2015:20) describes Content Knowledge (CK) to be the "knowledge of subject content", and that curriculum subject specialists often demonstrate pedagogical and content knowledge (how to teach subject matter) during continuous in-service courses.

During the classroom observations, Teacher A proved that she was well-equipped with CK on how to teach English and the different topics. During lesson observation one, an analysis of a poem, Teacher A examined the poem starting with the title. The following question was posed to the learners: "Now, what do you guys think when you think of a caged bird?" Learners actively responded to the question and were willing to participate in the lesson. Teacher A explained the figurative and literal meanings of the title – emphasising that the poem can symbolise oppressed groups in society. Subsequently, Teacher A fluctuated the tone of her voice as opposed to the monotonous reading of a poem, and this entertained the learners as Teacher A went into character.

Teacher D took a different approach during the semi-structured interview when explaining how well ICTs would improve teachers' pedagogy:

> *It would improve their understanding, and also, it would catch the interest of the learners okay if we use ICTs because most of their attention span is very low. And these learners today tend to think technologically, so I think it would greatly help us improve results*.

This perspective was echoed by Teacher B when answering the question in the semi-structured interview: “Do you or have you made use of digital technologies in the English classroom? If yes, what impact has it made on your pedagogy (if any)? If not, what impact/difference could it have made on your pedagogy?”

> *I would incorporate a movie or certain parts of the movie to play to the learners as well as audios that are quite helpful, where we get the audience of the novel or the drama, as well as learners, tend to be quite bored with one's voice. So the audio also assists in that regard*.

In the extracts from the interviews above, both Teachers B and D imply that using ICTs will increase learner concentration and make the content more appealing. Teachers B and D’s views are opposed by Ozdemir (2017:506), cited in Chapter 2, Section 2.3 whose research proves that interactive teaching promotes a greater emotional quotient (EQ), but technology cannot perceive learners' emotions. As a result, students are distracted easily by multimedia courseware rather than focusing on the curriculum. Teacher A's teaching approach aligns with Ozdemir's finding, contrary to the views expressed by Teachers B and D in the semi-structured individual interviews. Teacher A fluctuated her tone of voice, which verified her understanding of the mood in which the poem's vocabulary, metrical consistency or irregularity, sentence structure, use of metaphorical expression, and rhyme scheme demonstrated her knowledge of the instructed material. Students were still engaged in the lesson even though no ICTs were used during this lesson. Occasionally, learners would use pens – only to underline words in the poem or make annotations. The lesson was prepared using ICTs, but no technologies were used to execute the lesson, although her pedagogy and content knowledge made the content appealing to learners.

Observing the participants in their natural teaching environment allowed the researcher to study the junction of subject knowledge and technology expertise and how participants optimally integrate this information into a successful pedagogy. Teachers revealed this junction and how or what they utilise to convey material in the classroom.

It is evident from participants’ responses that they are willing to adopt ICTs as an additional resource in their pedagogy which already shows an openness to professional development. Dlamini and Mbatha (2018:28) latch onto their response in Chapter 2, Section 2.2.1, by suggesting that their confidence heavily influences teachers' readiness to accept and integrate educational ICTs. The DBE (2015:10) adds that learners similarly become independent and confident users of digital tools and content resources to support curricular goals, which

alleviates some of the strain on teachers to be the main influence in the classroom in enhancing learning objectives and learner accomplishment.

The data above suggest that the WCED provides online training to teachers regularly, they have their framework for teaching with technology that unravels TPACK, and curriculum specialists often facilitate continuous in-service workshops. Therefore, strategies are suggested to improve teaching reading through ICTs.

5.3.3 ICT-related challenges

The availability digital instruments and materials does not guarantee improved classroom learning. The teacher is responsible for creating learning experiences that effectively uses of pedagogy backed by digital instruments and materials. While limited access to digital tools and resources may appear to provide a narrower range of learning opportunities, a class guided by effective pedagogical methods and the use of a single device by the teacher is likely to be more productive compared to a class equipped with numerous devices but taught using inadequate pedagogical techniques (South Africa. Department of Basic Education, 2015:23). In the current study, lack of resources, accessibility issues, and ICT challenges are identified as ICT-related challenges that lead up to the poor delivery of the English curriculum.

5.3.3.1 Lack of resources

It is clear from the data below that the insufficiency teachers described as lacking technology was not limited to technology. During the semi-structured individual interviews, the participants shared their experiences of not having access to teaching resources in the English classroom.

Teacher C:

> *When reading, the learners come across words unfamiliar to them on the tablet they're reading; you can look up a word on that tablet because we lack resources. There's nothing in my classroom. I don't have dictionaries for each learner, so a tablet would be a perfect device.*

Teacher D:

> *If we had the Wi-Fi and the resources here, we could use them because they could work independently.*

Teacher B:

> *We don't have the platform to do lessons where ICT is fully integrated. Our schools don't even have one smart board, whereas other schools may have one in each classroom.*

Teacher A:

> *Some of our textbooks, especially at this school, are outdated, and sometimes it's not even up to the CAPS curriculum.*

From the analysis of the semi-structured individual interviews of these participant teachers, it is evident that lessons are conducted with a lack of reading material and ICT resources. The school is limited to three projectors, and students must share reading books and dictionaries.

As reported in Chapter 2, Section 2.2, Henderson (2020:53) found that in most cases, both teachers and learners faced limitations in accessing ICTs, leading to resource sharing among teachers. This is similar to the findings presented in the previous paragraph. According to Henderson (2020:53), inaccessibility might be caused by insufficient resource organisation, outdated or defective hardware, or software unsuitable for teaching. As a result, Teacher C mentioned insufficient dictionaries in her class for each student. Consequently, pupils have to share dictionaries in class. Similar to the second classroom observation with Teacher B, the lesson was introduced with the author's background information, characters, and the book's setting. Learners were provided with books to share two-by-two. The researcher observed Teacher B, who taught the same novel then. Not only are learners sharing these resources, but teachers are too; books must be divided equally among the two teachers and further divided among the students. Data from the semi-structured interviews and classroom observations show that a shortage of resources deprives teachers of teaching to their maximum ability.

5.3.3.2 Access to devices

Accessibility is an extension of the ICT-related complications and lack of resources. During the COVID-19 outbreak, South African schools were closed, and many teachers and students were unable to access learning and teaching materials, while others were left without any educational assistance, as mentioned by Dean, Pascoe, and le Roux (2021:7) in Chapter 2, Section 2.1.2. The challenges that participant teachers faced are illustrated below.

Teacher A:

> *I've never taught technology before. The closest I've come to using technology in my classroom is playing a song through a speaker on my laptop; that's the closest thing to listening comprehension. Other than that, I've never made use of or could or was able to make use of any of the computers or projectors; the projectors we do have don't fit into my laptop. Yes, as well as a whiteboard and so forth. So, there's not much of an understanding because I couldn't use it.*

Teacher A's response is related to the question, "Briefly explain your understanding of the use of ICTs in the English classroom". In the final sentence of her response, she emphasised that she did not have a comprehensive understanding of ICTs because she could not utilise any of the school's technological resources.

Teacher B:

> *I'm quite comfortable using a projector. But the facility is not always available; as I've mentioned, we only have about two CAT labs available.*

This is the response of Teacher B to the question: “Do you or have you made use of digital technologies in the English classroom? If yes, what impact has it made on your pedagogy (if any)?” She acknowledged that she is technically equipped to use projectors. However, the

resources are not always available. The "CAT labs" are technologically equipped classrooms for Computer Applications Technology (CAT). As seen in the ATPs, teachers would have difficulty finding an open slot in the CAT lab for an English lesson.

Teacher C:

> *All the activities that I normally set up are on my laptop, but it needs to be printed because it's not that I can share them via Google Classroom with kids or, you know, upload them onto a site where learners can gain access to it. It will assist in so many ways; as I said, we are reading a novel that we aren't familiar with, we can gather information, perhaps if we want to know a little more background information about a particular story that we are reading so they can Google it.*

Teacher C shed light on the inaccessibility of resources experienced by students. She answered: “Which ICT strategies or tools would you use to enhance your method of teaching reading/literature? Explain your answer.” Teacher C's expression aligns with Ozdemir's (2017:514) finding in Chapter 2, Section 2.2, that students typically lack access to resources, resulting in some learners having more knowledge of TPACK than others, which creates an imbalance. This finding is substantiated by Teacher C's response later in the interview to question 7: "70% of these kids don't have laptops at home; they don't have computers at home."

Inaccessibility faced by teachers and learners is not a challenge caused by COVID-19 and the closure of schools, as stated earlier by Dean, Pascoe, and le Roux (2021:7). The data contradicts Dean et al. (2021:7) express that in that it leans toward a socio-economic challenge that resembles technology as an inaccessible educational resource even in schools. The DBE (2015:10) concludes by reporting that some studies suggest socioeconomic factors might be detrimental to teaching. However, to relay the previous theme, teacher professional development should encompass strategies for utilizing digital instruments and materials to enhance teaching and facilitate learning across diverse socioeconomic contexts prevalent among teachers in South Africa. (cf. WCED, 2015:10).

5.3.3.3 Challenges in ICT integration

As previously stated by Ozdemir (2017:506), some factors impede ICT integration. Predictably, during the semi-structured individual interviews, Teachers A and D reported power outages caused by loadshedding as a structural ICT-related intricacy that is nearly irrevocable. The power outage is a foreseeable challenge, as the researcher experienced this during one of the classroom observations when ICTs were utilised. Another challenge linked to learners not having access to resources, as reported by Teachers B and C, is that learners might not understand how to use ICTs.

Question 8 of the semi-structured individual interviews is: "What barriers/challenges do you foresee that you might experience using these digital technologies in teaching reading in the

English Home Language class?" Teachers A and D have mutual concerns, as illustrated below.

Teacher A:

> *Loadshedding that we know of is happening within the country. We experienced that a few months ago when our Wi-Fi was damaged, and it was difficult to print and log onto certain things.*

Teacher D:

> *We have load shedding. The lesson is going to be cut in half.*

During the classroom observation of Teacher B, she taught the AIDA principle, as mentioned before. There was a power outage – loadshedding – mid-lesson, which caused a slight delay in the progress of the lesson objective. However, the lesson was not "cut in half". Teacher B wrote the AIDA principle on the board and allowed learners to provide examples. A Nike jacket was used as an example, even though there was no physical jacket or picture. Learners had to analyse an advertisement abstractly by "image, font, and the layout", as explained by Teacher B. As a result, Teacher B reverted to a traditional teaching method after experiencing this impediment.

In the semi-structured individual interviews, Teachers B and C reported that even learners experience challenges while using ICTs.

Teacher B:

> *When using those audios, for example, as I mentioned, as a teacher, you will still have to facilitate the lesson because you might be a learner and not understand some content of the ICT platforms you're using. So, you will have to simplify it, maybe beginning with different learners, or you will have to explain it from a different angle to bring it across to all.*

Teacher B's statement emphasises that the teacher is the main source of information. Even with ICTs, the role of the teacher will remain as teachers still will have to explain content as Teacher D suggests below.

Teacher D:

> *Language barriers, if a person with a different accent speaks on video or audio, you must constantly stop and explain.*

This is one of the most important deficiencies that ICT integration has: the inability to employ learner differentiation strategies. ICTs will not be able to detect whether learners understand or not and, more specifically, they will not be able to point to learners in the lower category of the cognitive table. This is what Teacher D refers to, audios and videos not being able to alter what they are initially programmed to do, whereas English teachers can employ the three readily available teaching approaches proposed by the DBE (2011:22). Consistent with these arguments, Teacher A concludes:

> *At the end of the day, it always comes down to the teacher being in front of a class and having human interaction. Nothing can beat that, me just reading the poem and analysing it from my perspective. So, like I said previously as well, there's always a line that needs to be drawn. And we can lose that if we rely too much on technology.*

These comments draw attention to the impediments to ICT integration, as reported by Ozdemir (2017:506). Loadshedding interrupts the process of learning and teaching, in addition to the production of printed reading materials, as mentioned by Teacher A. This can be coupled with the inaccessibility to reading books among teachers and learners having to share, leaving teachers with the option of copying, or printing online resources/electronic books. This method is aligned with Drigas and Charami's (2014:5) finding discussed in Chapter 2, Section 2.4, which found that online reading is necessary for 21st-century students. E-readers, on the other hand, are ineffective for learning, as reported by Piper, Zuilkowski, Kwayumba, and Strigel (2016) in Chapter 2, Section 2.4. Teacher D's statement substantiates this report on e-readers as an ineffectual learning technique: "you would have to constantly stop and explain."

Consequently, the teacher must analyse still the reading piece even if learners can access online reading materials. Given that the scheduled power outage is a serious disruption to the integration of ICTs in the English classroom, schools should have backup procedures in place in the case of loadshedding to guarantee that learning and teaching continue uninterrupted. The WCED should add a hybrid teaching approach to their training workshops that infuses traditional and modern pedagogies to prevent teachers from being too reliant on ICTs, as mentioned earlier by Kihoza et al. (2016:112-113).

5.4 Conclusion

This chapter presented the findings on how ICTs enable and constrain the teaching of reading. The data revealed the competencies for participating teachers to effectively incorporate ICTs in teaching reading. Firstly, teachers should follow a teaching approach that promotes ICT integration into their lessons – the DBE (2015:20-27) suggests that SAMR and TPACK are frameworks for technology integration. Secondly, it was found that professional development enables the ability to use technology. However, participant teachers who attend these professional development workshops still battle to integrate ICTs to teach reading as there is a shortage of reading material – technology and physical books. This was linked to other constraints revealed by participants, such as power outages that prevent using ICTs fully and learners' lack of understanding and not being receptive to using ICTs due to socio-economic conditions. Based on the patterns found in the data, incorporating ICTs into the lesson can provide many benefits and challenges when teaching reading.

CHAPTER 6

FINDINGS AND RECOMMENDATIONS

6.1 Introduction

As stated in Chapter 1, the primary aim of this study was to investigate how the use of ICTs influences the teaching of reading at Grade 10 level. In addition, the study aimed to effectively utilise ICTs for teaching reading, investigate teachers' experiences using ICTs, and develop strategies to assist teachers in using ICTs for teaching reading. The primary focus of the research is to answer the following question: *How does the integration of ICTs in teaching reading at the Grade 10 level affect instructional practices?* This study found factors that may either enhance participant teachers' ability to teach reading with ICTs or constrain their ability to teach reading due to ICTs. In this chapter, an overview of all the chapters is provided. The chapter discusses the research questions and objectives pursued, summarises the primary discoveries and conclusions while suggestions for prospective research endeavours to explore the use of ICTs for teaching reading in various educational contexts, addresses the limitations and challenges encountered in this study, and provides suggestions for further research to build on the current study and extend the knowledge on this topic. Finally, recommendations are discussed for further research to explore the use of ICTs for teaching reading in different grades and settings, as well as strategies for supporting teachers in effectively using ICTs for teaching reading.

6.2 Chapter Overview

6.2.1 Chapter 1

Chapter 1 provided an introduction and overview of the study on using ICTs in teaching reading in the English classroom. The chapter started by discussing the impact of the COVID-19 pandemic on education and how it forced a shift towards digital transformation in learning and teaching. The chapter also mentioned the WCED reading strategies which aim to ensure that each learner can read by age 10. The study aimed to explore the use of ICTs in the English classroom to enhance teacher pedagogy when teaching reading. The problem statement highlighted the negative impact of the COVID-19 pandemic on education and how it affected under-resourced schools in South Africa. The chapter concluded by mentioning the challenges teachers face in using ICTs to teach reading, which was concerning given the increasing reliance on technology in education (Henderson, 2020:52).

6.2.2 Chapter 2

The literature review investigated the use of ICTs in teaching reading, focusing on English teachers. The review considered the benefits and challenges of using ICTs in teaching reading

and gathered insights from researchers who conducted similar studies. The TPACK framework and SAMR model were used as theoretical frameworks to understand the integration of ICTs in education. The government's role in promoting the integration of ICTs in education and the importance of digital literacy for educators were analysed. Furthermore, the review considered research from various sources, including studies conducted in Ghana and South Africa, as well as the impact of the COVID-19 pandemic on the use of ICTs in education and the measures taken by organisations such as UNESCO to support remote learning.

6.2.3 Chapter 3

The research methodology chapter of this study discussed the research paradigm, research approach, research design, trustworthiness, and ethical considerations related to the investigation into the influence of ICTs on teaching reading at the Grade 10 level. The interpretative research paradigm was adopted, and a qualitative approach was used to gather in-depth information about the experiences of four Grade 10 teachers using document analysis, classroom observations, and semi-structured individual interviews. The case study design was chosen for its ability to provide multiple sources of evidence converging on a series of findings. Trustworthiness was ensured using credibility, transferability, dependability, and confirmability, and ensuring the well-being of participants. The data collected was analysed using thematic analysis and interpreted in the TPACK framework and the SAMR model context.

6.2.4 Chapter 4

Chapter 4 presented all three data sets collected from policy documents (document analysis), classroom observations, and semi-structured individual interviews. The first data set, document analysis, includes examining policy documents such as the CAPS and ATPs to understand the reading requirements and any references to using ICTs. The second data set, classroom observations, involves observing teachers in action to understand how they incorporate technology into their lessons and whether it is effective for teaching reading. The third data set, semi-structured individual interviews, involves interviews with English teachers to understand their pedagogy and use of ICTs in teaching reading.

6.2.5 Chapter 5

This chapter analyses the collected data from the semi-structured individual interviews and classroom observations and compares these with policy documents. The policy documents re-analysed common themes related to teachers' pedagogy when teaching reading using various methods, including reading, and annotating the documents, coding the data, and identifying patterns and trends in the data. For classroom observations, the data was analysed by taking notes and audio-recording the observations and then coding the data to identify

themes related to teachers' pedagogy when teaching reading. The data from the semi-structured individual interviews were transcribed and analysed using a similar coding process. The chapter concludes by linking the findings with TPACK and SAMR and discussing the implications.

6.3 Discussion of the findings

The findings of the thematic analysis presented in the previous chapter show that using ICTs to teach reading in the Grade 10 classroom is impactful. The data reveals that teachers use a variety of teaching approaches. These approaches align with the CAPS for FET Grades 10 to 12 English Home Language which recommends text-based, communicative, integrated, and process-orientated approaches for language teaching. According to participant teachers, the use of ICTs in the classroom, such as laptops and data projectors, enhance learners' understanding of the text and engage them in the learning process. However, there are also challenges to the use of ICTs in teaching reading presented, including limited access to digital devices and a need for ICT assistance for teachers to develop their pedagogy. These challenges may hinder the full potential of ICTs in language learning and teaching.

The researcher presents the study findings in the section below by addressing the research questions. By examining the data, the researcher aims to provide a comprehensive understanding of how ICTs can be used in teaching reading, the experiences of teachers who have implemented these technologies in their classrooms, and the support teachers may need to integrate ICTs into their teaching practices effectively.

6.3.1 Primary research question

How does the integration of ICTs in teaching reading at the Grade 10 level affect instructional practices?

The use of ICTs can influence the pedagogy of teachers when teaching reading through the use of interactive features and technologies that engage learners and make the reading material more meaningful. During the semi-structured individual interviews, one of the participants explained how she used the whiteboard to display reading content from the platform Quizlet to support teaching (cf. Section 4.3). During the semi-structured individual interviews, Teacher D expressed anticipation that using ICTs in the classroom would help teachers create more dynamic and interactive learning experiences for their learners, which could enhance learner engagement and understanding of the material. This finding suggests that the use of ICTs contributes to a more engaging and effective student learning environment. However, the researcher observed limited use of ICTs during classroom observations. During the limited use of ICTs, the challenges faced by teachers were apparent, and they significantly influenced their teaching practices. These findings highlight teachers'

need for adequate training and support to integrate ICTs into their teaching practices effectively. These challenges can hinder teachers' ability to incorporate ICTs into their teaching of reading effectively, and prevent them from fully realising the potential benefits of ICTs for teaching reading.

On the other hand, using ICTs can enhance the understanding of texts by presenting authentic texts (cf. Section 5.3.1), playing videos, and facilitating online learning activities. For example, during the classroom observations, Teacher B played a video explaining the skills required to analyse an advertisement. Furthermore, during the semi-structured individual interviews, Teacher C explained that she used a data projector to display a document from her laptop and shared an advertisement to analyse it with the learners' approaches as recommended in the CAPS for FET Grades 10-12 English Home Language (cf. Table 4.1).

Secondly, using ICTs can support the integrated and process-orientated approach to teaching reading, which involves learners participating in various stages of hearing, speaking, reading, and writing. For example, Teacher A described their preferred teaching approach as "using my laptop and then just boom, it goes onto my whiteboard, my PowerPoint, or I could open a YouTube video, or open a document online" (Q5). This approach aligns with the ideology of blended learning which combines traditional with some online technology-aided learning, as described by Kihoza, Zlotnikova, Bada, and Kalegele (2016:113).

With access to the necessary technology or support, participant teachers may effectively use ICTs to engage and motivate their learners or provide interactive experiences. However, they also may need help to utilise the interactive features and tools that can help to support comprehension, such as highlighting or note-taking tools (cf. Section 2.1.2.1). This can limit the teaching effectiveness of reading and may impact student learning outcomes.

Additionally, the challenges teachers face in using ICTs in teaching reading may also impact their ability to effectively integrate the TPACK model (cf. Section 2.7.1) and the SAMR model (cf. Section 2.7.2) into their teaching practices. These models suggest that the effective use of technology in education requires a combination of technological, pedagogical, and content knowledge and the ability to use technology to support and transform learning and teaching (cf. Figure 2.7.2). With access to the necessary resources and support, teachers can effectively integrate ICTs into their teaching practices.

In terms of how the use of ICTs can influence the teaching of reading, the study found that the use of ICTs can provide teachers with access to a wide range of teaching resources and materials that can help to enhance their teaching practices and support learners' learning.

6.3.2 Research sub-question one

How could ICTs be used in teaching reading?

ICTs can be beneficial in teaching reading skills, but some challenges must be addressed to integrate ICTs into the classroom effectively. The literature review of the study (Chapter 2) highlights the various ICT-based teaching methods that can be used in teaching reading, including reading software and augmented reality (cf. Sections 2.1.2.1 and 2.1.2.2). Reading software, such as electronic books or e-readers, can provide access to a wide range of reading materials and offer interactive features that can help with comprehension, such as highlighting or note-taking tools. Augmented reality, which involves using technology to overlay digital information onto the physical world, can also enhance reading instruction by providing interactive experiences that engage learners and make the reading material more meaningful (cf. Section 2.1.2.2).

The study also found that using ICTs can enhance reading skills by teaching the use of learning management systems (LMSs). LMSs are online platforms that can deliver and manage educational content and assessments. They can provide reading materials, assign, and grade reading assignments, and track progress (cf. Section 2.1.2.3). This can be particularly useful for distance learning in the case of COVID-19, as stressed by the DBE when schools were closed in 2020.

The TPACK model suggests that the effective use of technology in education requires the combination of technological, pedagogical, and content knowledge (cf. Section 2.7.1). The study found that teachers who effectively integrated ICTs into their teaching of reading had some understanding of how to use technology to support their teaching goals as well as a deep understanding of the reading material (cf. Section 4.1.1.1). One participant in the study described how she used ICTs to support the teaching of reading in her classroom (cf. Section 4.3) by using an interactive whiteboard to display reading content. During the semi-structured individual interview, she also mentioned that the platform Quizzes could be utilised as an ICT tool to support teaching. The SAMR model (cf. Section 2.7.2) can help understand how ICTs can be used to support the teaching of reading. The SAMR model suggests that the use of technology in education can range from simply substituting traditional methods with technology (such as using an e-reader instead of a physical book) to augmenting traditional methods with technology (such as using an interactive whiteboard to support whole-class reading instruction), and to redefining traditional methods with technology.

6.3.3 Research sub-question two

What are teachers' experiences with ICTs in teaching reading?

The participant teachers in this study identified the benefits of using ICTs in reading instruction (cf. Sections 4.3.1-4.3.4). Using ICTs in teaching reading can also support the development of digital literacy skills and prepare learners for the digital world (cf. Sections 4.1.1-4.1.3). However, participant teachers also identified the challenges of using ICTs when teaching reading, including technical difficulties, a lack of technology for teachers and learners, and the need for ongoing professional development to stay updated with new technologies (cf. Sections 4.3.1-4.3.4). The literature review in Chapter 2 notes that there can be a lack of digital literacy among some teachers and a lack of access to technology for some students which pose challenges to using ICTs to teach reading.

During the classroom observation, it was evident that teachers experience limited use of ICTs in teaching reading. Across all four participants and all eight observations, technology was used only in a few lessons and even in those instances, teachers faced challenges. Teacher B effectively used technology by showing a video relating to the lesson using a projector, whiteboard, laptop, and speakers. It was evident that Teacher B effectively employed these ICT tools. However, she had to quickly revert to the traditional way of teaching due to loadshedding – creating a blended learning approach, as stated in Chapter 2 (cf. Section 2.7.2), similar to the SAMR model. Teacher A's second observation lesson presented pre-planned reading materials with ICTs. With Teacher B's experience, Teacher A's strategy seems beneficial to have planned a lesson using ICTs, but to be flexible during the lesson in the event of technical challenges. Teacher A's strategy of pre-planning reading materials with ICTs but not using them during the lesson in the event of technical challenges, can benefit Teacher B's experience as it allows for a blended learning approach in case of unforeseen circumstances, like the SAMR model. This approach provides flexibility in teaching by allowing for seamless switching between traditional and ICT-based teaching methods and ensuring that technical issues do not disrupt learning.

From the researcher's perspective during classroom observations, using technology in teaching reading was limited in some classrooms. While some teachers did use technology in two of the lessons, it was not utilised to enhance the lesson or provide any additional benefits. In addition, the teachers may have needed more resources or training based on the challenges other researchers reported during their studies (cf. Section 2.3) and what teachers revealed during their interviews.

Based on the interview responses presented in Chapter 4, using ICTs in the English classroom can involve various technologies and equipment, such as laptops, speakers, PowerPoint presentations, audio recordings, and videos. Participants have experienced that these technologies can make lessons more engaging and exciting for the learners and may help to improve reading skills and understanding. However, some teachers said that they may need

more experience using technology in the classroom or access to sufficient resources to incorporate ICTs into their teaching effectively.

It was revealed that participant teachers have limited experience using ICTs in the English classroom to teach reading. They have faced challenges with access to technology, such as a lack of smart boards, laptops, and tablets in their classroom, which have limited their ability to fully integrate digital resources into their teaching. Despite their challenges, teachers presented a good deal of understanding of using ICTs during their limited experience of using ICTs to teach reading. Regarding the specific digital resources that their learners found to be most interesting, participant teachers mentioned Quizlet, resources shared via WhatsApp, and Kahoot. They see the benefits of using these ICT-based teaching methods to support learners who may struggle with reading by providing access to resources like dictionaries and engaging learners with low attention spans. The participant teachers seem to be open to using various ICT strategies and tools to support teaching reading in their classrooms. However, they have identified several strengths and weaknesses in using ICTs, including a lack of resources, difficulties with technical issues, and the need for training and support (professional development) in using these technologies effectively. These weaknesses are comparable to the challenges presented in Chapter 2 (cf. Section 2.3).

Upon conducting classroom observations, semi-structured individual interviews, and referencing the research presented in Chapter 2, it becomes apparent that participant teachers encounter challenges that surpass the benefits associated with utilising ICTs for reading instruction. In this study, there is a discrepancy between what the researcher observed regarding the use of ICTs in teaching reading and what teachers said during their semi-structured individual interviews. While participant teachers' interviews suggest that they see the benefits of using ICTs in the English classroom and identify specific digital resources as being useful in their pedagogy, the researcher observed limited use of technology in teaching reading as it was used in a few lessons only and faced challenges in those instances. Some teachers may prefer traditional teaching methods and may not have had the necessary resources or training to effectively integrate technology into their lessons. Despite these challenges, in the next section (cf. Section 6.3.3), the researcher discusses the opportunities to improve technology integration in teaching reading by providing the necessary support to encourage the use of ICTs.

It is evident that teachers may experience a range of benefits and challenges when using ICTs to teach reading. However, to effectively use ICTs in teaching reading, teachers need to have a strong foundation in TPACK (cf. Section 2.7.1). This includes understanding how to use technology to support the teaching of reading and having a deep understanding of the reading content and effective teaching strategies.

6.3.4 Research sub-question three

How could teachers be supported to use ICTS in the teaching of reading?

It was mentioned that ICTs are being used in various ways to support teaching reading (cf. Section 2.1.2). These methods (cf. Sections 6.3.1 and 2.1.2) include reading software, augmented reality, and LMSs (cf. Sections 2.1.2.1-2.1.2.3). These technologies can potentially support teachers when teaching reading, including increased engagement and motivation, improved access to a broader range of materials, and the ability to provide different teaching approaches, as suggested by the DBE in Chapter 5. The data collected through the case study supports these findings, as the participant teachers identified the benefits of using ICTs in teaching reading.

Professional development programmes (mentioned as one of the themes in Chapter 5) could include support for developing curricula and lesson plans that incorporate ICT-based teaching methods (cf. Section 2.5). For example, this could involve creating lesson plans that utilise reading software, augmented reality, or LMSs to support learners' reading skills. In addition to professional development opportunities, teachers could also be supported by being provided adequate resources and infrastructure (cf. Sections 3.3.1 and 3.3.2). This could involve ensuring that participant teachers have access to reliable and updated computers and other ICT equipment, as well as Internet connectivity and technical support when needed. Adequate access to resources and infrastructure is crucial for enabling teachers to use ICTs effectively in their teaching, as they can help overcome challenges or barriers teachers may face.

Data from Chapter 4 of the dissertation substantiates the importance of providing participant teachers with adequate resources and infrastructure to effectively use ICTs in their teaching. For example, one teacher noted that the availability of computers and Internet connectivity was challenging and that not all learners had access to a computer at home (cf. Section 4.3.3). This suggests that the availability of resources and infrastructure can impact participant teachers' ability to effectively use ICTs in their teaching.

Another way to support participant teachers to use ICTs in teaching reading is through the *Professional Development Framework for Digital Learning* which was released by the DBE in 2015 (cf. Section 4.1.3). This framework provides teachers with guidance on effectively incorporating ICTs into their teaching practices, including various ICT tools and software available, as well as strategies for integrating these tools into lesson plans and assessments (cf. Table 4.7). The *Professional Development Framework for Digital Learning* also outlines the TPACK and SAMR model as frameworks for understanding how to effectively integrate technology into teaching practice, identical to the theoretical frameworks discussed in this dissertation (cf. Section 2.7). By providing participant teachers with the necessary knowledge

and skills, the *Professional Development Framework for Digital Learning* can help teachers use ICTs effectively in teaching reading.

The data from the previous chapters suggest that there are several ways in which teachers can be supported to use ICTs in the teaching of reading. These include professional development and training programmes, adequate resources and infrastructure, the development of curricula and lesson plans that incorporate ICT-based teaching methods, and the use of the TPACK and SAMR frameworks to understand how to integrate technology effectively into teaching practices (cf. Section 2.7). By providing participant teachers with the necessary support, it is possible to effectively incorporate ICTs into teaching reading and improve their pedagogy.

6.4 Recommendations

An investigation has been conducted into utilising ICTs for teaching reading. The study has revealed that implementing ICTs can grant access to an extensive assortment of educational resources, facilitate the development of digital literacy abilities, and equip novice and seasoned educators for the digital era. Nonetheless, the efficient integration of ICTs into teaching reading necessitates a detailed assessment of the advantages and drawbacks of deploying these technologies and formulating strategies for surmounting any challenges that may emerge.

Based on the research, recommendations were developed for using ICTs in teaching reading skills. A discussion of how ICTs can be used to support reading instruction, including through e-readers and other reading software, augmented and virtual reality, and LMSs follow. Additionally, strategies for successfully integrating ICTs into teaching reading, including the importance of professional development for teachers and the need to consider the needs and interests of the learners, are provided. Finally, recommendations are offered for policymakers on how to support teachers and bridge ICT-related challenges in South African schools, including providing professional development opportunities and resources and promoting equitable access to technology and digital resources for all learners and teachers. The recommendations aim to guide the effective use ICTs to support the teaching of reading skills and ensure that ICTs positively influence teachers' pedagogy.

6.4.1 Recommendation 1: Using ICTs to enhance the teaching of reading skills: Steps and considerations

It is recommended that ICTs be used in the teaching of reading skills in a variety of ways. E-readers and other reading software can provide access to a wide range of reading materials and eliminate the need for learners to travel to the library to gain access to reading materials. Additionally, online resources are easier to keep up to date, as this was Teacher A's concern

with books at the outdated research site. Nemer (2022:49) concludes that transitioning from traditional print books to e-books represents an evolution in how literature is delivered and consumed. E-books can be just as effective, if not more so, in developing literacy skills as print books and can be used in conjunction with traditional methods in a blended learning approach. Readers need to understand that e-books and print books are not mutually exclusive and can be used for different purposes. Incorporating reading platforms into educational settings can provide language development and comprehension opportunities through shared reading experiences as well.

Augmented and virtual reality can engage learners and make reading material more meaningful through interactive experiences. LMSs can deliver and manage educational content, including reading materials, assignments, and assessments. They can benefit from distance learning, such as when WCED schools were shut during the COVID-19 pandemic. More importantly, TPACK and SAMR should be considered theoretical foundations for effective ICT use in teaching to transform traditional methods.

6.4.2 Recommendation 2: Balancing the benefits and challenges of using ICTs in teaching: Strategies for successful integration

It is recommended that teachers consider the benefits and challenges of using ICTs in teaching reading. While ICTs can support the development of digital literacy (2.2.1) skills and prepare learners for the digital world, there may be challenges such as technical difficulties, a lack of access to technology, and the need for ongoing professional development. To integrate ICTs into reading instruction effectively, it is recommended that teachers acquire a comprehensive understanding of the available ICT-based teaching methods and possess adequate resources and training to utilise them effectively. In addition, teachers should consider the needs and interests of their learners when choosing which ICTs to use in their teaching and be open to trying new technologies that may help support reading skills and engage learners. If the issue of insufficient technology access persists, it is imperative to explore alternative approaches like blended learning (cf. Section 2.7.2) and leverage available resources such as mobile apps and online platforms.

6.4.3 Recommendation 3: Supporting teachers and bridging ICT-related challenges in South African Schools: Recommendations for policymakers

For the DBE, the WCED, and other policymakers, it is recommended that schools and educational establishments offer opportunities for professional development and allocate resources to support teachers in effectively using ICTs in the teaching of reading. Additionally, there are several ways to support teachers and bridge ICT-related teaching challenges in South African schools. One way to do this is by providing access to technology and digital

resources for teachers to use in their classrooms. This could include investing in technology for schools and providing training to use it effectively. Additionally, it is essential to offer professional development opportunities for teachers to enhance their skills and knowledge in using ICTs in their teaching. Blended learning and distance learning can be effective strategies for continuing education using ICTs, particularly in the event of major disruptions as was experienced with COVID-19. Policymakers can support teachers in implementing these approaches by providing resources and guidance on effectively using technology for remote learning. Technical support and resources should be made available to teachers to help them troubleshoot any issues that may arise when using ICTs in their teaching.

Finally, to encourage the use of ICTs in teaching, policymakers can promote the benefits of technology integration and offer incentives for teachers who effectively incorporate technology into their lessons. This could include providing resources and support for teachers interested in using ICTs in their teaching. In addition to these strategies, updating policy documents such as CAPS and ATPs with technological strategies for teaching reading is essential. Moreover, the WCED resources portal should be made a zero-rated website to allow teachers and learners to access the website without incurring data costs. By taking these actions, policymakers can support teachers in effectively using ICTs in their teaching and bridge the gap between traditional and technology-based approaches to education.

6.4.4 Recommendation 4: Eliminate the Digital Divide among students and teachers

The Department of Basic Education and educators can support learners who may not have access to ICTs by utilising community resources. This could involve partnering with local organisations, such as libraries and community centres, to provide learners access to ICTs and other resources outside the school setting. This can be particularly beneficial for learners needing access to technology at home or living in areas with limited technological infrastructure. By utilising these resources, educators can help ensure that all learners have access to the technology and resources they need to succeed in their studies.

In addition to benefiting learners, utilising community resources can benefit teachers who teach reading as well. By partnering with local organisations, teachers can access a broader range of ICTs and resources that can support their teaching of reading. For example, teachers may be able to use e-books or other digital reading materials that are available at the library, or they may be able to utilise the Internet and other online resources to supplement their teaching of reading, especially if they are newly qualified teachers who may not have the funding available to purchase their own ICT tools for teaching purposes.

6.4.5 Recommendation 5: Strategies for teaching reading with ICTs during loadshedding

Loadshedding, or planned power outages, can be a significant obstacle for teachers using ICTs to teach reading (cf. Observation 1 of Teacher B in Chapter 4). To minimise the impact of loadshedding on teachers' contact time, the following recommendations can be followed. Firstly, use battery-powered devices such as laptops and tablets, which can be helpful during loadshedding. Teachers can encourage students to bring fully charged devices to class, or they can bring extra batteries or power banks to charge devices during lessons. Secondly, use offline resources: Many resources can be used for teaching reading that do not require an Internet connection. Teachers can download or print material in advance (the zero-rated WCED website), such as worksheets, reading passages, or videos, and use them during loadshedding in the way that Teacher A conducted her lesson during classroom observation one. Thirdly, use alternative forms of communication: If the Internet is down, teachers can use other forms of communication to stay in touch with their learners, such as WhatsApp, as suggested by Teacher C (cf. Section 5.3.2.2), or an offline-based LMS. This can be especially useful for keeping learners engaged and teachers on par with the ATPs. Finally, to tackle the issue of loadshedding more comprehensively, an alternative solution could be for the DBE to collaborate with the national electricity provider in implementing measures aimed at enhancing the reliability of the power grid or investing in alternative energy sources, such as solar or wind power.

6.5 Solutions developed by the researcher

Apart from providing recommendations to the findings, the researcher also developed solutions to address the issues related to using ICTs in teaching reading skills in a WCED school. As a researcher studying the use of ICTs in teaching reading skills in a school of the WCED, several challenges and opportunities for improvement were identified. Through semi-structured interviews with teachers and observations of their classrooms, insights were gathered into their experiences using ICTs in their teaching and how these technologies impact student learning.

One of the main challenges encountered was limited access to technology and digital resources, particularly in under-resourced schools. Many teachers reported that their schools did not have sufficient hardware, software, or connectivity to support using ICTs in their teaching. This limited their ability to use technology to engage students and enhance their learning experiences.

Another challenge identified was the lack of professional development opportunities for teachers to learn how to effectively use ICTs in their teaching. Many teachers expressed a

desire to learn more about the available ICT-based teaching methods and how to use them effectively. However, they often felt overwhelmed by the vast array of options and the lack of support and resources to help them get started.

In addition to these challenges, concerns about the quality and relevance of the reading materials being used in classrooms were identified. For example, some teachers reported that the books and other materials they had access to were outdated or did not align with the curriculum, which makes it challenging to engage students and support their learning.

To address these challenges, a website called Digital Institute for Virtual Education (DIVE) was developed through this study as a possible solution for teachers and students in the WCED. The website, https://www.diggilearn.co.za, is designed to provide access to a wide range of digital resources and tools that support the learning and teaching reading skills. There are two ways to access the website:

Table 6.1 Web application

Follow the hyperlink below:	**Use your smartphone camera to scan the QR code below:**
https://www.diggilearn.co.za	

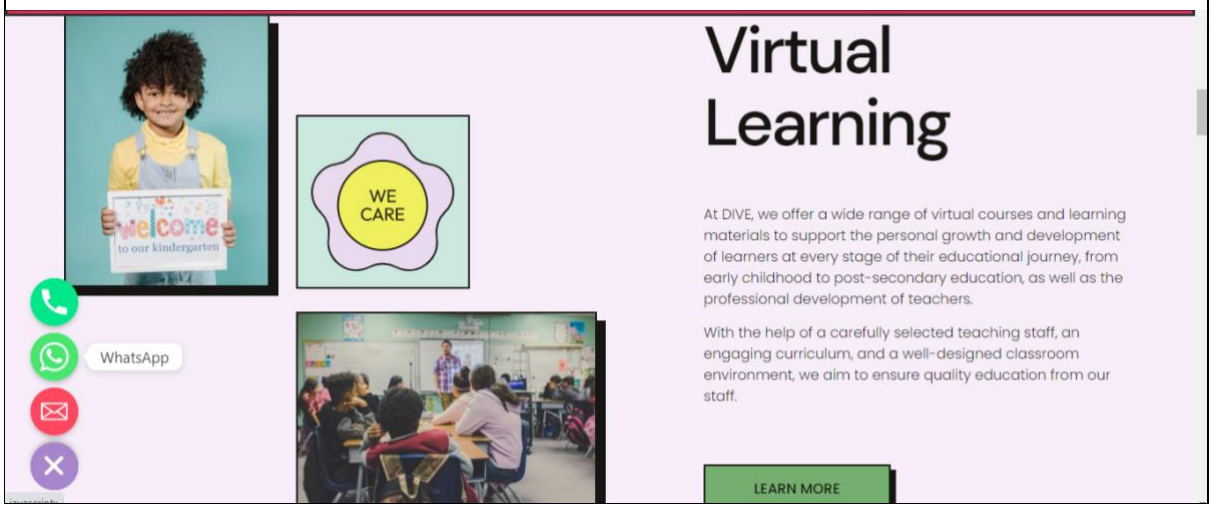
One of the critical features of the DIVE website is an e-library that provides access to e-books and/or e-readers for teachers and students to use as a solution to the challenges of accessibility and outdated hardcopy content. The e-library includes various reading materials aligned with the curriculum and can be accessed from any device with an Internet connection. This eliminates the need for students to travel to the library and allows them to access a wide range of reading materials from any location.

In addition to the e-library, an LMS was developed that provides access to updated lesson plan templates and other digital materials aligned with the ATPs from the WCED. The LMS is designed to support technology-rich teaching plans for reading and other skills. It is integrated with TPACK and SAMR to help teachers effectively integrate technology into their classrooms.

The LMS also includes a variety of resources and tools that teachers can use to support student learning, such as interactive activities, assessments, and collaborative projects.

To further support teachers in using ICTs in their teaching, a chatbot was incorporated into the DIVE website to allow teachers to connect with ICT professionals via WhatsApp and email for assistance and support. The chatbot is linked to ICT professionals who are available to assist and support teachers as needed. This chatbot is designed to help teachers troubleshoot issues and solve their classroom challenges when using ICTs.

Table 6.2 Automated Chatbot

In the bottom-right corner, teachers have access to the chatbot, as shown below:


The DIVE website has the potential to transform the way teachers approach the teaching of reading skills and help them overcome the challenges they face in the classroom. By providing access to a wide range of digital resources and tools aligned with the curriculum and supported by ICT professionals, teachers can feel more confident using ICTs in their teaching and can be better equipped to support student learning.

The table below further demonstrates the potential impact of the DIVE website by comparing the challenges and opportunities identified in the research with the features and benefits of the website.

Table 6.3 Impact of teaching reading using the Web application

Challenge	Opportunity	Website Feature	Benefit
Limited access to technology and digital resources	Improved access to a wide range of digital resources and tools	E-library, LMS, chatbot	Teachers and students can access various reading materials and resources from any location; teachers can access updated lesson plan templates and other digital materials, and teachers can connect with ICT professionals for assistance and support.
Lack of professional development opportunities	Improved skills and knowledge in using ICTs in teaching	LMS, chatbot	Teachers can learn about the various available ICT-based teaching methods and how to use them effectively; teachers can access resources and tools to support their professional development.
Concerns about the quality and relevance of reading materials	Improved quality and relevance of reading materials	E-library	Teachers and students can access a wide range of reading materials aligned with the curriculum which are up to date.

Based on the research conducted, it is believed that the DIVE website has the potential to make a significant impact on the teaching of reading skills in the WCED and beyond. By addressing the challenges and opportunities identified in the research, the website provides a valuable resource for teachers and students to support their learning and development.

Therefore, it is hoped that teachers and schools could embrace this website to enhance and transform traditional teaching methods and support student learning in the digital age.

6.6 Limitations

The following information presents the limitations of the study.

6.6.1 Limitation 1: Limitations of generalisability in a single school study

It is essential to consider the specific site context in which the study was conducted when interpreting the results. The study was conducted in a single school and may not represent the experiences and perspectives of teachers in other schools or contexts. The study's findings cannot be generalised due to the limited sample size of only four teachers.

6.6.2 Limitation 2: Limitations of self-report data

The study relied on self-report data from participant teachers, which may be subject to bias or inaccurate recall. During semi-structured individual interviews, participant teachers may have overestimated their use of ICTs in the classroom or reported their preferred teaching methods rather than their teaching practices. It is essential to be aware of these limitations and to consider their potential impact on the validity of the study's findings.

6.6.3 Limitation 3: Influences of the researcher's role and perspective on participant responses

There are several ways in which the researcher's position as an ICT teacher at the research site may have influenced the participants' answers during the semi-structured individual interviews. One influencing factor is social desirability bias. The participant teachers may have felt pressure to provide responses that they thought the researcher wanted to hear as their colleague, rather than their true thoughts and feelings. Another factor to consider is the researcher's perspective as the researcher's background as an ICT teacher may have influenced how the research was approached or the questions were asked. This influence could have affected the participant teachers' responses and thoughts about the discussed issues.

6.6.4 Limitation 4: Limitations of using thematic analysis in qualitative research

The study was conducted by using Tesch’s framework for thematic analysis of qualitative data, which involved identifying and interpreting recurring themes or patterns in the data from the policy documents, classroom observations, and semi-structured individual interviews. Although this research approach provided valuable insights into the experiences and perspectives of the participant teachers, it is important to acknowledge that other researchers employing diverse methods or analysing the data may reach different conclusions. It is crucial

to acknowledge the limitations of this chosen research approach and to consider how alternative methods might influence the interpretation of the data.

6.7 Suggestions for future research

There are several recommendations for future research based on the data provided on how the teaching of reading is influenced using ICTs. One key recommendation is to conduct research in multiple schools to increase the generalisability of the findings. The limited sample size of four participant teachers could be increased to the entire phase or the schools' English department and not Grade 10 teachers only. By conducting research at this scale, it will be possible to gather a more extensive and diverse sample of participants, which can provide a more comprehensive understanding of how ICTs may influence the teaching of reading.

Another recommendation would be to ensure that the researcher's role and perspective are considered when designing and conducting the study to minimise the potential influence on participant responses. Incorporating independent researchers who are not affiliated with the research site and possess diverse perspectives on the utilisation of ICTs can be instrumental in mitigating the risks of bias.

Consideration should be given also to alternative research approaches or analysis techniques to provide a more comprehensive understanding of how ICTs may influence reading instruction. Ensuring that the research design and data collection methods are appropriate for the research questions being addressed and the research population being studied is essential.

In conclusion, the purpose of this study was to determine how ICT use affects the teaching of reading at the Grade 10 level and how to efficiently employ ICTs in the teaching of reading. Through this study, insights were gained into the methods of utilising ICTs to enhance reading instruction. Additionally, teachers' experiences and perspectives regarding the use of ICTs in teaching reading were explored. The study's research has uncovered elements that could either improve or limit instructors' capacity to teach reading using ICTs.

The primary findings and conclusions, along with a summary of the study topics and goals pursued, were provided in this dissertation. Along with resolving the study's limits and difficulties, recommendations for future research areas were made to investigate the use of ICTs for teaching reading in diverse educational environments.

The use of ICTs for teaching reading in various grades and settings, as well as the provision of strategies to assist teachers in successfully using ICTs for teaching reading, were suggested as possible areas for future research to build on the current study and advance the understanding of the subject.

Ultimately, this study emphasises the value of using ICTs to teach reading and offers guidance on their efficient application. It is intended that this research will add to the ongoing conversation about ICTs in education and help teachers improve their instructional strategies to enable their students to receive better educational experiences.

In the realm of research, as one study concludes, does it mark the culmination of knowledge or the catalyst for a fresh wave of inquiry and unexplored possibilities?

Isn't teaching little more than personal style, artful communication, knowing some subject matter, and applying the results of recent research on teaching effectiveness (Shulman, 1987:5-6)?

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APPENDICES

APPENDIX A: ETHICS LETTER

Faculty of Education

Highbury Road

Mowbray

7700

Tel: +27 21 959 6583

FACULTY OF EDUCATION

On the **9 December 2021** the Chairperson of the Faculty of Education Ethics Committee of the Cape Peninsula University of Technology granted ethics approval **(EFEC 4-12/2021)** to **R. White** for an MEd degree.

Title:	**The use of Information Communication Technologies in the teaching of reading at Grade 10 level: a case study**

Comments:

The EFEC unconditionally grants ethical clearance for this study. This clearance is valid until **31st December 2024**. Permission is granted to conduct research within the **Faculty of Education only**. Research activities are restricted to those details in the research project as outlined by the Ethics application. Any changes wrought to the described study must be reported to the Ethics committee immediately.

_____ Date: 15 December 2021

Dr Zayd Waghid

Chair of the Education Faculty Ethics committee (EFEC)

Faculty of Education

APPENDIX B: WCED PERMISSION LETTER

Directorate: Research

meshack.kanzi@westerncape.gov.za

Tel: +27 021 467 2350

Fax: 086 590 2282

Private Bag x9114, Cape Town, 8000 wced.wcape.gov.za **REFERENCE:** 20211210-8733

ENQUIRIES: Mr M Kanzi

Mr White Rushaad

39 Bloumagrietsingel

Britannia Bay

Western Cape

7282

Mr White Rushaad,

RESEARCH PROPOSAL: EXPLORING THE USE OF INFORMATION COMMUNICATION TECHNOLOGIES IN THE TEACHING OF READING SKILLS.

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.

5. The Study is to be conducted from **10 December 2021 till 30 June 2022.**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Mr M Kanzi at the contact numbers above quoting the reference number.
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

The Director: Research Services Western Cape Education Department
Private Bag X9114
CAPE TOWN
8000

We wish you success in your research.

Kind regards,

Meshack Kanzi

Directorate: Research
DATE: 10 December 2021

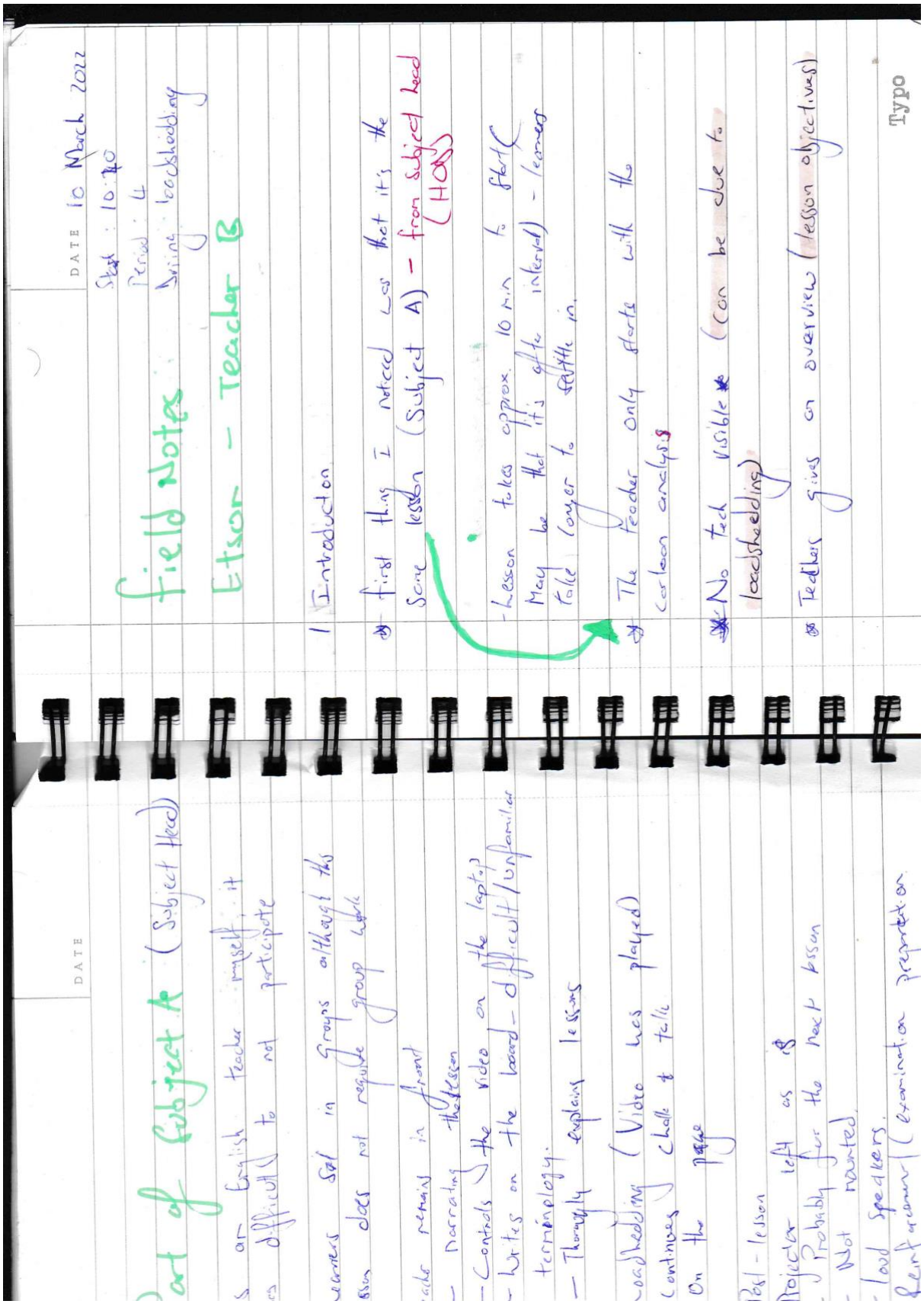
APPENDIX C: OBSERVATION SCHEDULE

Teacher C – Observation 1	
Observation schedule	**Observation**
1. Learners making use of pens and workbooks in response to the teacher's instructions.	
2. Teacher 'chalk-and-talk' as opposed to the use of ICTs strategies.	
3. Teacher uses digital reading material to explain content (TPACK)	
4. The use of CAPS/ATPs (CK). Lesson strategy relevant to CAPS/ATPs (does it apply or relate to these policy documents	
5. The teacher uses different reading strategies (PC).	
6. Technology that the teacher may have used.	
7. Technology aids teachers in the reading lesson (TP)/ Technology is effectively employed in the reading lesson.	
8. Teacher experiences challenge when using technology (TP).	

APPENDIX D: INTERVIEW QUESTIONS

1. Briefly explain your understanding of the use of ICTs in the English classroom. *Do you think it would be useful? To what extent do you think …?*
2. *Do you or have you made use of digital technologies in the English classroom? If yes, what impact has it made on your pedagogy (if any). If no, what impact/difference could it have made on your pedagogy?*
3. Are there any digital resources that your learners have found interesting that you can employ in your pedagogy?
    - Which of these digital resources would be beneficial to your practice?
4. Name any digital resources that you use in the English classroom.
    - How useful do you think it will be to use Memes, Videos, PowerPoints… *Narrowing down to practical examples (give them some ideas as they may have done it but cannot relate to the term digital resources)*
5. How well do you think the use of these tools/strategies will enhance your pedagogy (as mentioned in point three above)?
6. Which ICT strategies or tools would you use to enhance your method of teaching reading/literature? Explain your answer.
    - You know learners will be bored when reading Macbeth for example. What resource will help you to deliver an interesting reading lesson? How will you use digital literacies to get learners to want to read these books?
7. Name two strengths and two weaknesses in the use of ICTs in English teaching.
    - What can be good about using ICTs and what can be counterproductive about it?
8. What barriers can you identify in teaching with technology?
    - What barriers/challenges do you foresee you might experience in using these digital technologies/tools in teaching reading in the English Home Language class?
9. How can you determine whether an ICT-integrated lesson was successful or not?
    - How will you determine or identify the indicators that indicate the success of the lessons?
10. How can you assess/measure whether the lesson objective was achieved using ICTs? (Similar to the previous one)

APPENDIX D: FIELD NOTES



APPENDIX E: APPLICATION TO CONDUCT RESEARCH IN PUBLIC SCHOOLS WITHIN THE WESTERN CAPE

Directorate: Research

Audrey.wyngaard2@pgwc.gov.za

tel: +27 021 467 9272

Fax: 0865902282

Private Bag x9114, Cape Town, 8000

wced.wcape.gov.za

APPLICATION TO CONDUCT RESEARCH IN PUBLIC SCHOOLS WITHIN THE WESTERN CAPE

Note

- This application has been designed with students in mind.
- If a question does not apply to you indicate with a N/A

1.2 Contact Details		
1.2.1	Postal Address	**39 Bloumagrietsingel, Britannia Bay, Western Cape.**
1.2.2	Telephone number	
1.2.3	Cell number	**062 679 6233**
1.2.4	Fax number	

- The information is stored in our database to keep track of all studies that have been conducted on the WCED. It is therefore important to provide as much information as is possible

APPLICANT INFORMATION

1.1 Personal Details

1.1.1	Title (Prof / Dr / Mr/ Mrs/Ms)	**Mr**
1.1.2	Surname	**Rushaad**
1.1.3	Name (s)	**White**
1.1.4	Student Number (If applicable)	**216210240**

1.2.5	E-mail Address	**Whiterushaad8@gmail.com**
1.2.6	Year of registration	**2021**
1.2.7	Year of completion	**2023**

DETAILS OF THE STUDY

2.1.8	**What is the research question, aim and objectives of the study**

The main research question is: How is teaching reading at grade 10 level enabled or constrained by ICTs?

The primary aim of this study is to investigate how ICTs can promote teacher pedagogy when teaching reading at high school level. The study furthermore aims to analyse the benefits of using ICTs as a tool to enhance reading and how it may affect the experience of teachers. The objectives of this study are to:

2.1 Details of the degree or project		
2.1.1	Name of the institution	Cape Peninsula University of Technology
2.1.2	Degree / Qualification registered for	Master's in Education
2.1.3	Faculty and Discipline / Area of study	Education
2.1.4	Name of Supervisor / Promoter / Project leader	Hanlie Dippenaar

2.1.5	Telephone number of Supervisor / Promoter	082 202 2122
2.1.6	E-mail address of Supervisor / Promoter	DippenaarH@gmail.com

2.1.7	**Title of the study**
The use of Information Communication Technologies in the teaching of reading at Grade 10 level: a case study	

i. Determine how teachers experience teaching reading with ICTs
ii. Exploring strategies that may improve teaching reading through the use of ICT.
iii. Lastly, the study aims to determine how teachers could be supported to teach reading with ICTs.

2.1.9	**Name (s) of education institutions (schools)**
Cape Peninsula University of Technology	

2.1.10	**Research period in education institutions (Schools)**	
2.1.11	Start date	January 2022
2.1.12	End date	June 2022