E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context

by

Nokuthula Lucky Masimula

Submitted in partial fulfilment of the requirements for the degree

MEd in Computer-Integrated Education

in the

Department of Science, Mathematics and Technology Education

FACULTY OF EDUCATION

at the

UNIVERSITY OF PRETORIA

Supervisor: Dr. Kimera Moodley

Co-Supervisor: Dr. Mari van Wyk

OCTOBER 2021

Declaration

I declare that the thesis, which I hereby submit for the degree of MEd: Computer Integrated Education at the University of Pretoria, is my work and has not previously been submitted by me for a degree at this or any other tertiary institution.

Nokuthula Lucky Masimula

07 October 2021

Dedication

This MEd is dedicated to all deprived of the chance to live their dreams because of extraordinary circumstances beyond their control. I would like to say, "The goal is to keep striving until we succeed".

Acknowledgements

I would like to extend my deepest gratitude for the contributions made to the completion of my thesis to the following individuals:

- My supervisor, Dr Kimera Moodley, and my Co-Supervisor, Dr Mari van Wyk, for providing their inspiration, encouragement, and insightful guidance throughout my research;
- Prof. Linda van Ryneveld, for your many inspirational words, e.g. “If it was easy, everyone would do it”;
- the Head of the Language Department, Joel Mosehle and my former student and now my colleague Siya (Siyabonga Mahlangu), who have always checked on my progress and kept their doors open to me;
- my daughter Nkazimulo, and my niece Lethokuhle, who suffered a lack of attention as a result of my study, their presence and support motivated and gave me the strength to keep going;
- my parents, brothers, and my cousin Jabulani Mahlangu, who have always wished me success throughout my studies; and finally
- my loving husband, thank you for being the first person to believe in me and teach me how to be brave.

Ethical Clearance

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Education

RESEARCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE	CLEARANCE NUMBER: **EDU130/20**
DEGREE AND PROJECT	MEd E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context
INVESTIGATOR	Ms Nokuthula Lucky Masimula
DEPARTMENT	Science, Mathematics and Technology Education
APPROVAL TO COMMENCE STUDY	08 September 2020
DATE OF CLEARANCE CERTIFICATE	23 July 2021

CHAIRPERSON OF ETHICS COMMITTEE: Prof Funke Omidire

CC

Ms Thandi Mngomezulu
Dr Kimera Moodley
Dr Mari van Wyk

This Ethics Clearance Certificate should be read in conjunction with the Integrated Declaration Form (D08) which specifies details regarding:

- Compliance with approved research protocol,
- No significant changes,
- Informed consent/assent,
- Adverse experience or undue risk,
- Registered title, and
- Data storage requirements.

Ethics Statement

The author whose name appears on the title page of this thesis has obtained for the research described in this document the applicable research ethics approval. The author declares that she has adhered to the ethical standards required in terms of the University of Pretoria's Code of Ethics for researchers and the policy guidelines for responsible research. The data is saved and password protected, can only be accessed by the supervisors, researcher or through permission from the Ethics committee.

Language Editor

Member South African Translators' Institute
www.language-services.online

PO Box 3172
Lyttelton South
0176
24 September, 2021

TO WHOM IT MAY CONCERN

The dissertation titled "E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context." by Nokuthula Lucky Masimula has been proofread and edited for language by me.

I verify that it is ready for publication or public viewing in respect of language and style, and it has been formatted as per the institution's prescribed style.

Please note that no view is expressed regarding the document's subject-specific technical content or changes after this letter's date.

Kind regards

Anna M de Wet

SATI MEMBER 1003422

BA (Afrikaans, English, Classical Languages) (Cum Laude), University of Pretoria.
BA Hons ((Latin) (Cum Laude), University of Pretoria.
BA Hons (Psychology), University of Pretoria.

List of Abbreviations

LO – Learning outcomes

UP – University of Pretoria

ICT - Information and Communication Technology

DBE – Department of Basic Education

SAMR – Substitution, Augmentation, Modification, and Redefinition

Abstract

Increasingly, e-learning tools have been integrated into education, making it more interesting and preparing learners for new careers in the 4th industrial revolution. However, language teachers in rural contexts are struggling to integrate e-learning tools into their lessons. Therefore, this study aims to explore the available e-learning tools for teaching and learning isiNdebele in a rural context. This qualitative study was conducted to understand the rural contextual perspective obtained through recording the experiences of the researcher, observers, and a class group of 20 Grade 11 learners. Data were collected using a document analysis protocol, learners' written questionnaire, observers' interview protocol, and a teacher's reflective journal as instruments.

The SAMR model was used as a frame of reference to integrate technology in different stages to enhance the quality of teaching and learning IsiNdebele language in the rural context. Several e-learning tools were found suitable for integration in teaching and learning the IsiNdebele language. Despite being inappropriate in the rural context due to challenges such as limited technology resources; and novelty, anxiety, and lack of computer skills of learners, the e-learning tools have been found to enhance classroom dynamics. The study also highlighted that rural IsiNdebele teachers should consider using data-free e-learning tools; and use technology devices daily, to ensure skills development and provide learners with real-world learning opportunities. This study recommends that the Department of Basic Education afford all learners access to technology resources that will strengthen the classroom learning environment by making use of e-learning tools.

Table of Contents

List of Figures

List of Tables

CHAPTER ONE: INTRODUCTION

1.1 Introduction

The transition to the 4th industrial revolution has rapidly increased technology integration in teaching and learning, which has resulted in a demand for new teaching models (Gilakjani, 2017). These new models often use digital technologies, commonly known as electronic learning software tools, hereafter referred to as e-learning tools. An e-learning tool is a small computer program that is web-based or that can be downloaded onto a mobile computing device such as a laptop, smartphone, or tablet and allows you to engage immediately with a person/s or a task (Cherner et al., 2014). E-learning tools have the potential to provide support for learning in a more portable, flexible, personalised, and on-demand manner because they can easily be downloaded on a mobile device (Zhang et al., 2004). E-learning tools are evolving and are consequently being used as an integral part of education globally (Luef et al., 2018). Mathison and Billings (2011) claim that these e-learning tools include many benefits that make teaching and learning more interesting and prepare learners for new careers in the 4th industrial revolution. However, teachers in rural contexts are still struggling to adapt their lessons to include devices because of insufficient technology resources. Consequently, learners are left behind with the necessary 21st-century skills and basic concepts of language to relate to real-world learning experiences (Hui-Ya, 2016).

1.2 Background

The constitution used in democratic South Africa stipulates that everyone has a right to be taught in their home language in South African schools (Republic of South Africa, 1996). Therefore, the development of all languages is equally important. IsiNdebele is one of the 11 official languages in South Africa, but because it was formerly marginalised, there is a great need for it to be developed and modernised. This language is behind in development regarding technical terminology compared to some of the other official languages such as English and Afrikaans (Mahlangu, 2015). It is believed that e-learning tools will assist in developing this language because some of the e-learning tools can enhance teaching practices, learning methods, and the participation of learners (Buabeng-Andoh, 2012). If teachers find e-learning tools useful, they might start using

them even in rural areas. E-learning tools are mostly used in urban parts of South Africa, but the usage is quite low in rural areas due to insufficient technological resources (Badugela, 2012).

1.3 Problem statement

The IsiNdebele language, like any other learning area, has outcomes and skills that are expected to be achieved by the end of each lesson. These skills include subject-specific skills such as listening and speaking; reading and phonics (viewing); writing and presenting; language structure and use (conventions); and creative writing (DoE, 2011) as well as 21st-century skills such as collaboration, communication, critical thinking, and creativity (Van Laar et al., 2017). These skills are often not acquired, and that might be because the language was formerly marginalised; therefore, it has fewer skilled teachers or experts in the IsiNdebele language. This lack of skilled teachers impacts on learners' final marks and the language reaching modernity. Therefore, content development is minimal (Mahlangu, 2015), e-learning tools for teaching and learning this language are almost non-existent and those that are available, are not always appropriate for use by teachers and learners in a rural context (Heil et al., 2016). Consequently, teachers are left with limited options of e-learning tools to integrate into their teaching and to promote a good academic foundation enhancing 21st-century skills development in IsiNdebele (Prieto, 2016).

1.4 Rationale

Teaching and learning have changed from classroom communication to Internet communication through instant messaging software and learning anytime and anywhere. E-learning tools enable the switch from traditional classroom teacher-centred instruction to new easy shared information platforms that are learner-centred provided by electronic learning, mobile learning, and blended learning (Hui-Ya, 2016). Learning has become ubiquitous, with the freedom of learning inside or outside the classroom through observing or receiving information, and through interaction with peers on the Internet (Wang, 2017). Therefore, finding e-learning tools with relevant features suitable for teaching and learning the IsiNdebele language in rural contexts might ensure effective integration of technology

in the teaching of languages to improve results and reach the modernity of most home languages.

1.5 Purpose

The study aimed to explore available e-learning tools that can be used in the teaching and learning of the IsiNdebele language. In addition, the study promoted the use of e-learning tools in rural areas as it aims at finding e-learning tools that can be integrated successfully in a rural context to enhance the teaching and learning of the IsiNdebele language. Further, these e-learning tools were evaluated to identify those suitable for an instructional function or for teaching purposes such as planning, implementing, assessing, and recording performance (Gilakjani, 2017). Thereafter, the challenges that IsiNdebele teachers experience when they integrate e-learning tools during their lesson planning, implementation of the lesson, and the assessment were determined (Soraya et al., 2018). Consequently, these e-learning tools should be optimal for teaching the IsiNdebele language and ensuring that learners receive meaningful learning content.

1.6 Research Questions

A list of primary and secondary research questions was designed to explore and achieve the research purpose to improve knowledge on e-learning tools of the IsiNdebele language in the rural context.

1.6.1 Primary research question

To what extent do e-learning tools enhance the teaching and learning of isiNdebele as a home language in a rural secondary school context?

1.6.2 Secondary research questions

1. How appropriate are the selected e-learning tools for teaching IsiNdebele in a rural secondary school context?
2. What are the challenges experienced by rural IsiNdebele teachers when they integrate the selected e-learning tools into their lesson plans?
3. What lessons can be learned from implementing the selected e-learning tools in a rural IsiNdebele classroom?

1.7 Significance of the Study

The study is motivated by the potential of e-learning tools to enhance teaching practices, learner engagement, and learning strategies (Buabeng-Andoh, 2012). This study provided ways in which language teachers could enhance their teaching practices by integrating e-learning technology. Teachers were provided with tools to identify appropriate e-learning solutions that can be used to teach and learn languages or any other subject in a rural context. In addition, the study provided teachers with possible solutions to the challenges of integrating e-learning tools in rural settings to ensure the proficient integration of e-learning tools in languages. Consequently, rural learners acquired the necessary 21st century skills and basic language concepts to participate in the real-world experience.

1.8 Conclusion

This chapter presented the topic of the study by outlining the problem, rationale, motivation, and scope of the study. Chapter 1 mentioned the formerly marginalisation of the IsiNdebele language, which led to less-skilled teachers or experts in the field to equip learners with the necessary 21st century skills. However, a possible way to develop these 21st century skills and enhance the teaching and learning of IsiNdebele in a rural context is through e-learning tools. E-learning tools for teaching and learning the IsiNdebele language are almost non-existent. Those that are available are not always appropriate for use by teachers and learners in a rural context. The following chapter will review relevant literature on the theme and unpack the theoretical framework regarding the study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section provides a critical review of literature relevant to the theoretical basis of this study of the e-learning tools integrated to enhance teaching and learning of the IsiNdebele language in a rural secondary school context in South Africa. The literature explores e-learning as part of teaching and learning. Further, it discusses the e-learning tools that can be used in teaching and learning practices. Its primary focus is how e-learning tools can enhance the teaching and learning of languages, specifically the IsiNdebele home language. Thus, it provides the advantages and uses of e-learning tools in languages. It further examines the South African school context, especially in rural areas. Lastly, the literature review provides a theoretical framework for the study.

2.2 What is E-learning?

Before we can discuss the e-learning tools, we must first know what e-learning is. According to Rosenberg (2002), e-learning or electronic learning is acquiring new skills or knowledge through electronic media in most cases on the Internet. E-learning is used mainly to enhance performance or outcomes by promoting active learning and developing levels of competence in learners to become more engaged in their learning to achieve the curriculum learning outcomes. Teachers employ e-learning processes in their pedagogical practices to create learning environments that support knowledge-centred, learner-centred, community-centred, and assessment-centred learning (Sanderson, 2002). E-learning is delivered to learners through technology or e-learning tools such as communication technologies, network technologies, computer technologies, and mobile technologies. For example, the media transmitting video, audio, data, or multimedia, which includes fibre optics, cable satellite, wireless (infra-red, radio, Wi-Fi, Bluetooth) are communication technologies. The Internet, extranets, intranets, Personal Area Networks (PANs), Wide Area Networks (WANs), Local Area Networks (LANs), and Campus Area Network (CAN) are network technologies. Computer technologies are removable media that include disks, optical discs, video books, flash memories, interactive electronic boards, multimedia projectors, and personal computers (PCs). Lastly, mobile technologies include mobile phones, laptops, tablets, palmtops, personal digital

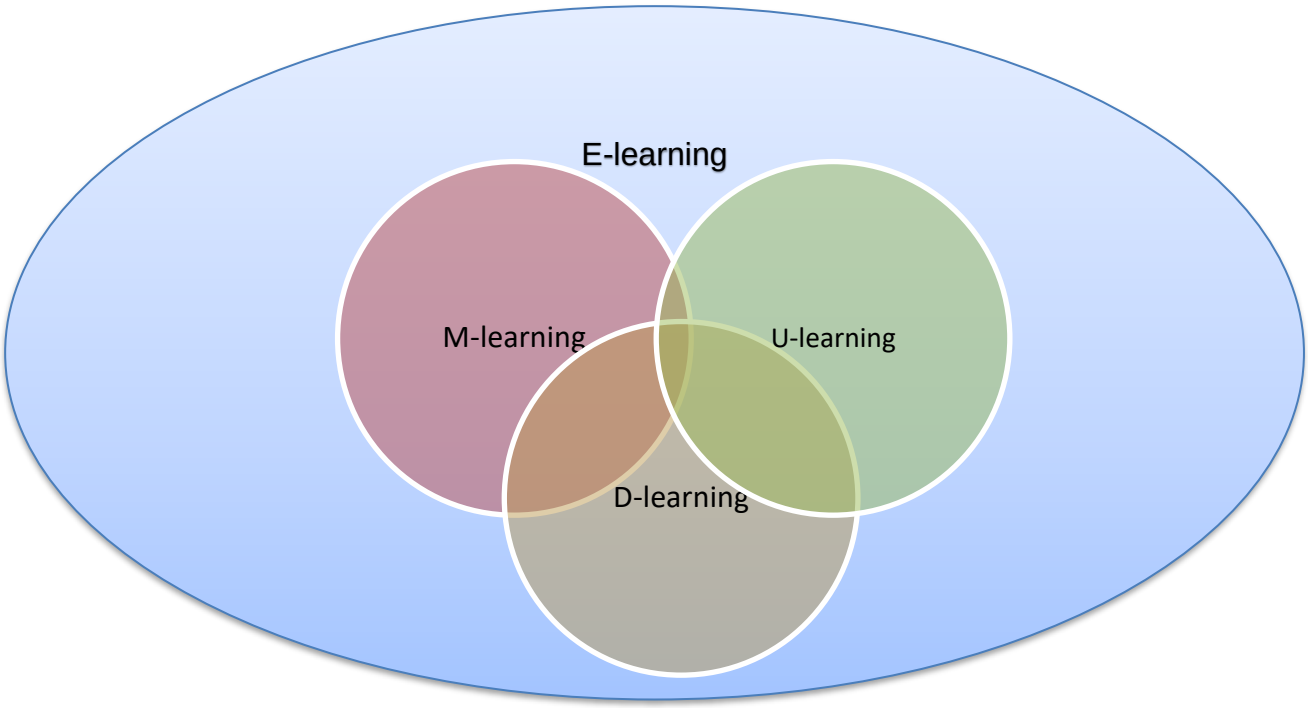
assistants (PDAs), and many more that have information as their material object used in learning (Adelabu et al., 2014).

Further, e-learning opened many opportunities for teachers to abandon traditional teacher-centred teaching and learning methods to employ e-learning teaching and learning methods, enhancing wider access to information resources and enriching learning content (Adelabu et al., 2014). This wider access to information makes it easier to adapt teaching and learning approaches to be more learner-centred (Ozdamli & Ozdal, 2018). Sanderson (2002) also mentioned a few of the benefits of e-learning, such as consistency, improved quality of education, cost-effectiveness, timely access to content, accessibility, flexibility and improved responsiveness to change. The improved responsiveness to change was disagreed upon by November (2010), as she recognised that most teachers hesitate to increase technology based-activities in their classrooms due to fear of change. She continues to discuss teachers' fears and anxiety to practice e-learning pedagogy and that it should be taken seriously by teachers being invited to discuss openly potential technology anxieties and find ways to relieve hesitancy and fears (Hilliard et al., 2020).

E-learning comes in many variations (Figure 2.1); while the definition of e-learning refers to online learning delivered through electronic technologies. M-Learning refers to the use of wireless or mobile devices for learning (Park, 2011). Tetard and Patokorpi (2008, p. 2) define "m-learning as e-learning through mobile computational devices", or it is an intersection of e-learning and mobile computing to produce an anywhere, anytime learning experience. Ubiquitous learning (u-learning) refers to a learning environment whereby all learners have access to digital devices and services such as computers connected to the Internet whenever and wherever they need them (Park, 2011). The term e-learning is increasingly being replaced by digital learning (d-learning), as d-learning concerns the use of Information and Communication Technology (ICT) in distance and open learning. D-learning is an effective instructional practice using technology to support learners' learning experience (Basak et al., 2018).

Figure 2.1

Relationship of u-learning, d-learning, m-learning, and e-learning



D-learning includes wide-ranging tools and practices such as online assessments; online content, and courses; an increase in quality and focus of teaching time and resources; adaptive software for learners with special needs, application of technology in the school, platforms for learning, participation in professional communities of practice, and access to challenging content and instruction. Figure 2.1 indicates the relationship of u-learning, d-learning, m-learning, and e-learning. Consequently, e-learning tools might include tools used in u-learning, d-learning, and m-learning (Basak et al., 2018).

2.3 What are e-Learning Tools?

An e-learning tool refers to a computer program that is web-based or that is downloadable for mobile devices such as a laptop, smartphone, or tablet and allows you to engage immediately with a person/s or a task (Cherner et al., 2014). These e-learning tools enhance different aspects of learning such as multimedia, time management, research, task management, delivering content, collaboration, and engaging learners in learning activities (Thomson, 2017). There are various paid and free e-learning tools available

(Cherner et al., 2014). Most e-learning tools are programmed to operate on Android, Windows, Google's Linux-based, or Apple's iOS operating system (Tetard & Patokorpi, 2008). Some e-learning tools are developed for educational purposes, for example, cK-12, Storybird, Kahoot!, Thinglink, Project, and Plickers (Chauhan, 2018), while others are adapted to be used in education. On the other hand, WhatsApp, Facebook, Email, Twitter, Microsoft Office, and many others were not developed to be used in education but work well in schools. There are various e-learning tools implemented by innovative teachers, such as emails, wikis, blogs, animations, e-portfolios, and videos. Several researchers have studied some of the e-learning tools that can be used and found that they can enhance teaching and learning (Abrahim & Mir, 2017; Gon & Rawekar, 2017).

Video and audio platform example.

YouTube is an example of video sharing that enables relationships around video content uploaded to the site. YouTube contributors have been continually uploading videos on education, entertainment, marketing, and science since 2005 (Moghavvemi et al., 2018). Authentic examples of language used by real people, which is the real advantage of using YouTube to teach languages, can be found. Teachers use YouTube to improve learners' listening, reading, writing, and speaking skills (Chhabra, 2012). Additionally, YouTube videos used as teaching materials provide various benefits such as psychological development (motivation, learning attitude); cognitive development (memorising); and knowledge visualisation. Willingham (2009) mentioned that learners could retain ideas and concepts better when using visual media rather than text media. With options such as rewind, pause and stop, learners enjoy the experience of innovative learning that facilitates engagement by giving them more control over the pace of their learning (Beheshti et al., 2018). As an accessible, free, and easy-to-use teaching tool, YouTube enhances learning by allowing the learners to repeat the lesson. However, YouTube has disadvantages such as increased reliance on technology, lack of eye contact, loss of concentration, inability to ask questions while watching, the risk of not referencing knowledge on the subject, and removing learners from social environments (Nacak et al., 2020).

Social media platform examples.

Kustijono and Zuhri (2018) defined WhatsApp as an application that sends and receives short messages and multimedia messages such as photos, audio, and videos for free and operates on different platforms such as Android phones and iPhones. Blending WhatsApp in teaching and learning practices can have many advantages and disadvantages (Mahaye, 2020). Examples of advantages are that learners receive opportunities and equal chances for participation in class discussions at their convenient times, and collaboration (Miranti & Wilujeng, 2018) and cooperation between learners or learners and teachers are enhanced. In addition, language is learned beyond classroom boundaries, learners can consult the teacher concerning school work at any time and links to study materials are easily and quickly transferred between learners and teachers (Gon & Rawekar, 2017). Lastly, WhatsApp creates a supportive and safe environment for learning. WhatsApp has few disadvantages when integrated into teaching and learning a language, such as learners can remove themselves at any time from the WhatsApp group, teachers are unable to block learners' posts when posted after deadlines, WhatsApp does not allow you to save your post and continue when you have time, enough time is needed for teachers to search through all the posts of an individual learner to evaluate them, learners could post indecent pictures or media and lastly, and WhatsApp bundles can be bought, but it is expensive for most learners to buy Internet data that could last a month (Mwakapina et al., 2016).

Facebook as a social media website allows users to collaborate and interact in a virtual platform to strengthen cooperation with different participants without physical limitations using multiple media such as videos, pictures, video or voice chat, simple writing, and link sharing. Users can create and interact with content, access digital information, and connect online communities (Bailey et al., 2017). Since Facebook is known to learners, teachers normally use Facebook for communication with or between learners and other teachers to facilitate collaboration, interaction, resources, and information sharing (Balcikanli, 2015; Chugh & Ruhi, 2018). Facebook also has privacy policy settings, creating a safe environment to facilitate communication anytime and anywhere (Prescott et al., 2015). However, not all learners have a Facebook account, while those learners

that have might use Facebook only for social means. Another drawback is that Facebook or any other social media can never replace face-to-face interaction, as it might hinder the development of other skills such as communication and social skills. Lastly, learners might behave inappropriately or post inappropriate multimedia on the Facebook group (Kustijono & Zuhri, 2018).

Interactive and assessment tool examples.

Kahoot! (https://getkahoot.com/) is a learner response system used to review learners' knowledge through game-based learning platforms (Wang & Tahir, 2020). Learners can access Kahoot| from any device with a web browser, such as an Android device, iPad, or Chromebook. Plus, learners do not need a Kahoot account to access the quiz, survey, or discussion platform created by the teacher (Smith & Mader, 2015). Through Kahoot!, teachers can create their content, access the learners, allow learners to play quizzes anonymously, be competitive, have fun and learn (Wang, 2015). Using Kahoot! as a gamified approach showed many positive effects such as improved class attendance, higher downloads of course material, higher final grades, fewer late arrivals to class, and improved classroom dynamics. Furthermore, using audio and music in Kahoot! resulted in a significant positive impact on the classroom dynamics, which brings about an improved atmosphere for discussions and oral questions in class (Lieberoth & Wang, 2016).

Plickers (https://plickers.com) is a Classroom Response System (CRS) application used by teachers to collect formative assessment data from learners; it operates for free on Android and iPhones. Plickers require only the teacher to have a device such as a tablet or a smartphone, and learners use a piece of paper called a Plicker card to participate (Kent, 2019). The Plickers tool can be used online and offline. Plicker cards are scanned offline and store the data on the mobile device to be synced later when the mobile device is connected to Wi-Fi. The online service stores all the data, such as learners' information, questions, and answers. Users access their accounts using a unique password to protect their privacy. The data can be exported to a spreadsheet, where the teacher can add and edit sensitive learner details such as identification numbers and surnames (Krause et al., 2017). Other advantages of Plickers include little or no extra cost, projecting response

graphs immediately for the whole class to see, improving learner engagement; enhancing learning in traditional classroom settings, emphasising formative assessment methods, being time-effective, improving class management, ease of use with the least technology, and instant feedback (Smith & Mader, 2015). Plickers has a few drawbacks such as limiting the number of responses to four i.e. (A, B, C, and D), only posing closed-ended questions, how well the app can read the Plickers cards is determined by the lighting, Plickers cards need to be replaced now and again, and laminated Plickers cards have a glare when the app scans the card (Krause et al., 2017).

Creative and content creation tools.

GoConqr (https://www.goconqr.com/) is an online learning platform that provides both teachers and learners with a set of content creation tools, and the content can be shared in various formats that learners can access anytime (Shaykina, 2015). The GoConqr platform enables users to create six different kinds of learning resources, including notes, flowcharts, flashcards, mind maps, quizzes, and slide sets. With GoConqr's free basic version, users can access a free collection of content and learning objects created and shared by others. Further, the user may also use all of their tools to create an unlimited number of public resources that can be shared through the online library (Graham, 2019). The application of mind mapping using GoConqr is an effective tool in improving high school learners' learning outcomes on alternating current circuit material. Furthermore, earners easily organise their knowledge, using images, symbols, conjunctions, and lines, making the information meaningful. Learners adding colour to the mind map makes the knowledge more memorable (Dewantara, 2019). The logging-in process is simple and can be done through a Facebook or Google account or via e-mail. A teacher can take the role of an administrator to create appropriate content of tasks and publish or share it with a private group or save it on a website. Further, the teacher can create numerous groups for diverse specialities and levels, with the learners working only within the created content. GoConqr can be chosen in the classroom to facilitate groups or individual work, problem-based learning, overall testing of knowledge, and brainstorming and practising new vocabulary (Shaykina, 2015). It can easily be integrated with Google Apps and Microsoft applications, and it can easily share content between them and/or other

sources. The challenge of using GoConqr is that the notes tool can only be uploaded to three subjects maximum, and servers often experience slow performance (Purwani & Rukun, 2017). Moreover, only ad-free versions of GoConqr offer the ability to create private resources and prevent others from copying them, as well as providing additional media storage, though a paid premium version is required (Graham, 2019).

2.4 E-Learning Tools for Enhanced Language Learning

Technology in education and e-learning has completely changed the traditional classroom environment to accommodate the needs of contemporary learners (Chhabra, 2012). The infusing of e-learning tools in the education system has reduced traditional teacher-centred methods, primarily based on rote learning, which resulted in mechanical memorisation and a high failure rate in developing language skills among learners (Chhabra, 2012). However, these educational practices continue in many undeveloped countries, there is less adoption of e-learning, and it seems that the e-readiness is neglected (Redempta & Elizabeth, 2012). Researchers have observed that e-learning tools in both primary and secondary schools play an important role in enhancing the quality of teaching and learning interaction in the classroom (Ojo & Adu, 2018; Wang & Tahir, 2020).

Schools that use e-learning tools in their teaching practices need to fully train their teachers and strengthen their roles in the use of e-learning tools (Dube, 2020). In fact, the Department of Education (DoE) (2003) advised that teachers should use 21st-century tools (e-learning tools) to support the teaching and learning processes in order to improve learner achievement and develop skills of the 21st-century. The use of e-learning tools is considered essential for teaching and learning processes in this 21st-century schools, as they can foster knowledge and experiences in the fields they serve. In their study, Wang and Tahir (2020) found that teachers' motivation increased dramatically after using e-learning tools. Teachers reported using e-learning tools to enhance their teaching and increase learners' attention and concentration, which led to better teaching that was entertaining. In addition, the e-learning tools improved and increased the social interaction among learners, whether they are in a classroom or a digital learning platform (Mustafa et al., 2018).

The benefits of integrating different e-learning tools in teaching have also been demonstrated for learners with learning difficulties and hyperactivity disorders (ADHD). E-learning tools enhance learners' quality of life and functional independence by enhancing their learning practices (Drigas et al., 2014).

The pedagogy of teaching is influenced by the infusing of technology in everyday learning. These new pedagogical/ learning theories such as cognitivism, behaviourism, constructivism, social constructivism, and connectivism have added learners' engagement, stimulus, and interactivity learning within the classroom. As part of the cognitivism learning theory, learning is seen as an internal mental process that includes receiving, decoding, storing, and recalling information. The teacher ensures that the content is presented in an orderly, well-structured manner and that it is presented in chunks that the learners can easily absorb within the timeframe, and learners pay attention and try to retain and replicate the expected knowledge and skills (Kay & Kibble, 2016). The lesson can be presented in a webcam version online, where learners can watch the lesson, get worksheets that assess their learning and notes from online electronic whiteboards if they have missed a lesson (Chhabra, 2012)

Constructivism defines learning is a process where individuals construct knowledge by interacting with their environment. Therefore, the theory of social constructivism defines learning as internalizing and integrating external experiences. Social constructivism learning encounters, learners face a challenge aligned with their zone of proximal development, and appropriate supports (more knowledgeable others, resources, tools) are available to assist them to achieve the challenge and move on to the next level of understanding or skill development (Kay & Kibble, 2016). In a social constructivist classroom, the teacher uses e-learning tools such as the Internet to provide learners with access to articles, conferences, courses, and more to explore problem solutions, acquire new knowledge and interact without being in the same space (using apps such as Microsoft teams) (Martin & Tapp, 2019).

Behaviourism is the opposite approach to constructivism, as behaviorism focuses on the transmission of knowledge from a teacher to learners (teacher-centered approach), while

constructivism emphasizes the construction of knowledge by learners (learner-centered approach). In behaviourist pedagogy, learners acquire knowledge through reinforcement, continuous feedback that tells them whether what they are doing is right or wrong. This feedback comes in the form of homework marks, test scores and, among other methods (Hassad, 2011). An example of how these e-learning tools are used in behaviourism approach, is when the teacher sends assignments or online tests (quizzes) to the learners through apps/ websites that is designed to mark the assignment or the test and send back feedback to learners. It is also easy for parents to view their child's work or results online at any time (Chhabra, 2012).

Connectivism is the theory that emphasizes that learners learn best if they are taught to use technology to navigate and build social networks and then use these networks to learn. As an example, a learner joining a science forum about mitosis and asking questions to gain knowledge from other forum members. According to connectivism, knowledge can be stored in any form of digital format and distributed throughout an information network such social networks, wikis, web browsers, search engines and online discussion forums (Goldie, 2016).

When teaching language, it is important that learners can practise and learn anywhere at any time. So learners must have access to language content information at all times. E-learning tools assist learners in acquiring skills in how to find information in tools such as dictionaries or encyclopaedias, or the Internet. Learners learn language best when they collaborate; even if they are not in the same room, they should be able to share skills and knowledge towards achieving one goal. Furthermore, learners should feel safe to share their multimedia or any multimedia that contributes to language learning to create a learner-learner dialogue (Rosell-Aguilar, 2017). When learning a language, learners will benefit if they have activities to do after class, reinforcing what they have learned in class. These assessment activities are key in language to evaluate what learners have learned. Learners need to be able to take these assessments repeatedly while they are marked automatically to provide learners with immediate feedback (Heil, Lee, & Wu, 2016).

Integrating e-learning tools makes it possible to meet the requirements mentioned above for effective teaching and learning of languages. E-learning tools allow learners to create

a learning environment irrespective of location and distance, known as a virtual classroom. In a virtual classroom, learners can select a group of persons, comment, ask questions, or answer questions/quizzes (Bhatia, 2011). When learners use e-learning tools, it helps them access the learning materials and contact teachers and fellow learners. E-learning tools also promote connectivity or networking, create a flexible and personalised learning virtual environment, allow learners to self-assess and support interactive and collaborative learning through the processes of m-learning, e-learning, digital learning (d-learning) (Basak et al., 2018) and ubiquitous learning (u-learning) (Tetard & Patokorpi, 2008).

Luef et al. (2018) found that more than 90% of the free e-learning tools can be used effectively, reducing the need to purchase expensive tools or create new e-learning tools. E-learning tools have many advantages for teaching and learning. For example, when using e-learning tools, learners receive instant feedback on their activities, there is learner support, learners can access tutorials and have multiple opportunities to retry. E-learning tools are valuable in decreasing the digital divide by easing access (learners can use their own devices or the school devices), retaining learners, and providing lifelong learning (Tetard & Patokorpi, 2008). Learners retain knowledge for a long time when they have fun while learning. As a result, repetition; orals; listening and understaning; creative writing and application of learning results in better retention of knowledge (Srivastava, 2018). Conversely, it excludes searches and learners without devices, mostly in rural areas (Dube, 2020).

Wang (2017) mentioned that learners are more comfortable learning with their own devices, and therefore learners' usage of e-learning tools increases. These tools encourage learners' motivation in learning, especially language vocabulary; it creates self-learning habits and a ubiquitous learning atmosphere that helps learners think more and build confidence in language learning (Wang, 2017). Using e-learning tools in language learning collaboration is significantly enhanced through peer-to-peer support for e-learning (Park, 2011). Furthermore, learners can learn anytime and anywhere with their mobile devices (Hui-Ya, 2016).

Rosell-Aguilar, (2018) has found that most e-learning tools focus more on the cognitive process and the receptive skills of languages and do not have opportunities in activities that encourage collaboration or socio-cognitive processes. Besides, many e-learning tools for languages also focus mostly on translation through user-experience design and connectivity with other users. Furthermore, most of the e-learning tools do not provide word pronunciation (Wang, 2017). Rosell-Aguilar (2017) indicated that the learning activities of e-learning tools used for language are underdeveloped and replicate what has been done before with other technologies. Burston (2014) criticized learning through e-learning tools, indicating that language learning activities on mobile e-learning tools test the learner without providing the instruction first or if they did provide instructions, it only offers a few brief examples. Moreover, feedback on the test tends to be a checkmark or a cross indicating the correct and incorrect answer without a narrative of what was wrong. E-learning tools mainly focus on assessment rather than full instructions and do not have help sections but instead address technical rather than pedagogical issues (Rosell-Aguilar, 2018).

E-learning tools can also play a role in enhancing learning by developing the 21st century skills of learners. The term 21st-century skills are defined by Germaine et al. (2016, p. 19) as “an overarching description of the knowledge, skills, and dispositions seen as prerequisites for success in the global workplace of the future”. In general, 21st-century skills refer to four core competencies, also called learning skills as mentioned above or the 4Cs: critical thinking and problem-solving, collaboration skills, communication skills, creativity and innovation skills.

People go through the process of learning to improve and develop their skills continuously. Education improves and develops the skills to do well in an identified area (Ching et al., 2018). When learners practise information management, communication, and information sharing, create content and knowledge, evaluate and solve problems, behave ethically and responsibly, collaborate, and use technology, 21st-century skills are developed (Hui-Ya, 2016). Van Laar et al. (2017) have listed the following three types of skills: firstly, learning skills which include critical thinking and problem-solving, collaboration skills, communication skills, and creativity and innovation; secondly, literacy

skills such as information, media, and ICT literacy; and thirdly, life skills that include flexibility and adaptability, social and cross-cultural skills, initiative and self-direction, leadership, responsibility, productivity and accountability.

Learners are required to acquire new skills called 21st-century skills that prepare them to work and survive in the digital era (Wan Husin et al., 2016). Critical thinking means being able to reason efficiently, have disciplines to solve problems, make decisions, and recognise connections between systems and concepts. It further requires accuracy, clarity, and precision of expression; the logic of thought; relevance of arguments or questions; and thinking with enough depth and breadth to consider complexities and perspectives of an issue (Paul & Elder, 2014). Computer-based assessment promotes critical thinking by presenting a quiz that randomly selects questions from a pool, automatically marks them, and provide immediate feedback (Pezzino, 2018).

Germaine et al. (2016) defined collaboration, as working effectively in diverse groups, valuing each other's individual contributions, and making compromises to get a common goal. Also, an individual is required to maintain the following skills: networking, resilience, time management, leadership skills, and good presentation skills (Kaufman, 2013). E-learning tools such as Skype provide immense opportunities for teachers and learners to collaborate anywhere in the world. Teachers mostly use Skype for mentoring or tutoring (providing homework help) the learners and connecting with foreign language classes in other countries to practise their language skills (Chhabra, 2012).

Communication is known as the "ability to effectively articulate, receive, and give feedback on thoughts and ideas transmitted orally, in writing, visually, through use of technology, or via non-verbal communication" (Siddiq et al., 2015, p. 6). Communication includes the effective use of listening skills and emotional intelligence to interpret the meaning and infer intentions, values, and attitudes (Trilling & Fadel, 2009). E-learning tools such as Facebook are international platforms for communication, where learners can express themselves freely, participation is higher; learners are eager to post texts, audios, and videos on the topic; and learners learn from others' posts (Gon & Rawekar, 2017).

Creativity and innovation skills include creating new and valuable ideas and also refining ideas that already exist. Creativity and innovation involve being open and receptive to new ideas by recognising that these abilities can be enhanced through small successes and frequent mistakes (Boholano, 2017). Chhabra (2012) mentioned as an example that YouTube videos could also influence creativity, enhance vocabulary, pronunciation, accents and voice modulations if integrated in this way. The teacher chooses an appropriate age-level movie, shows learners short clips in muted volume, and asks learners to observe. After that, the teacher repeats it and ask learners to create or frame the dialogues of the movie clip instantaneously.

Irrespective of the 21st century skills gained, Rosell-Aguilar (2018) found that several language skills have improved since technology has been used as a tool for language learning. These language learning skills include vocabulary acquisition, translation activities, reading and writing, listening practise, listening comprehension skills, speaking and phonological awareness, verb conjugation, and grammar (DoE, 2011). Reading, listening, speaking, and writing are the primary four skills of communication competence. When learning a language, listening is a needed skill in everyday interaction and has not been given enough attention. Therefore, without an exact understanding of the spoken message, communication will not be successful. Technologies such as computers and Internet resources can incorporate various learning skills (Hasan & Hoon, 2012). Wang (2017) pointed out that when learners study using mobile devices, they develop problem-solving skills on their own, enhancing comprehension ability, building confidence (Ching et al., Baldwin, 2018), and increasing their ability in application-independent learning.

2.5 South African school context

In the last two decades, the South African education system has experienced different stages of transformation, influenced by the National Qualification Framework (NQF) centred on Outcome-Based Education (OBE) (Isaacs, 2007). The 21st century is considered an era of dramatic development and change by OBE, which emphasises the other roles of teachers in delivering the curriculum. These roles include interpreters, mediators, leaders, masters of their subject areas, managers, administrators, facilitators of learning, scholars, lifelong learners, subject experts, programme innovators, teaching

material developers, and learning designers, as specified in the National Curriculum Statement (NCS). The learning process is considered as significant in delivering the content as envisaged by the curriculum developers since its most critical outcomes imagine learners capable of utilising technology effectively and critically and who show responsibility towards the health of others and the environment (Department of Education [DoE], 2003). According to this discussion, the study deems it necessary that learners in rural areas receive the same education as learners in urban areas. Educating learners with the aid of technology tools may assist in enhancing their learning process and gaining skills that will prepare them for the fourth industrial revolution with its influence on technology.

An experienced teacher utilises various e-learning tools by presenting new ideas and innovations, which will aid both the teachers and learners to interact with appropriate knowledge for retrieval, retention, and analysis for decision making in an enabling school environment. (Ojo & Adu, 2018). A colloquium was organised by the Department of Communication (DoC) in April 2012 to review the government's policies on Information and Communication Technology (ICT) that have been in place since 1994. Various stakeholders in academia, labour, business, and civil society across Africa gathered to further the conversation on ICT use in June 2012. After the government’s response to ICT use, the nine provinces in South Africa recorded the various ICT implementation degrees of progress. It was found that Gauteng, the Northern and Western Capes had made significant developmental strides at the time, while the rest of the provinces were still trying to catch up (Ojo & Adu, 2018).

In 2013, the Department of Education decided to use the Presidential National Commission (PNC), Information Society and Development (ISAD), and Electronic and Communications Transaction Act, No. 25 of 2002 by the Department of Communication (DoC) to drive the integration of technology. These establishments aimed to lead and direct all the e-learning tools initiatives and advise the government appropriately on developing e-learning tools in South Africa. The government support of e-learning tools in teaching and learning has led to the formulation of a policy for the effective use of e-learning tools through the integration of various initiatives (Ojo & Adu, 2018).

The government has initiated various projects in response to bridging the digital divide by engaging the services in partnership with some non-governmental organisations (NGOs), to improve on ICTs, for example, INTEL's "teach to the Future" project. Intel's "Teach to the Future" programme offers teachers insight into integrating e-learning tools into their classrooms. SCOPE, which was co-developed with SchoolNet SA and the South African Institute for Distance Education (SAIDE), is another example. SchoolNet SA has developed online, mentor-based in-service programmes for teachers to provide training to help them integrate e-learning tools into the curriculum and manage them. At the same time, INTEL's "teach to the Future" has developed 11 teacher development modules for introduction into schools. (Ojo & Adu, 2018).

Enhancing the effectiveness of teaching and learning interaction in the classroom was one of the main reasons for introducing e-learning tools in the curriculum (Hennessy et al., 2010). Technologically advanced countries have shown that e-learning tools are a central focus of educational policies through their integration in the curriculum and implementation for its usage in the school. In South Africa, teachers have a desire to improve their teaching pedagogies using e-learning tools and are aware of the e-learning tools' potential in the education field. Therefore, e-learning tools need accessibility and adequate knowledge of their usage before they can be effectively used (Msiza et al., 2020). In South Africa as a whole, it has been accepted that e-learning tools act as facilitators in teaching and learning for enhancing teachers' productivity and learners' performance (Letseka et al., 2018).

For the recent developments, teachers in secondary schools are expected to be facilitators of learning, coaches, collaborators, mentors, co-learners, and knowledge navigators, and not simply give out knowledge. This requirement makes the need for technological tools in teaching and learning become rapidly one of the most important issues in the secondary schools' education system in South Africa (Umunadi, 2011). Moreover, Ojo & Adu (2018) opined that secondary schools must strive to meet common 21st century challenges of providing learners with an education that society sees as relevant and valuable, and e-learning tools must drive teaching and learning for effectiveness.

However, the availability of e-learning tools in schools is not the same as their utilisation. Ojo and Adu (2018) revealed that teachers prefer to use the software installed on computers and mobile phones over other internet e-learning tools for teaching and learning because of Internet accessibility. Teachers that have access to the interactive whiteboard (IWB), remark on the efficiency, versatility, flexibility, the ability to switch between normal board work, video and the Internet, using the pen and other programmes, on-screen icons and computer mouse clicks, and the opportunities to access countless multimedia sources (Mihai, 2017). Although the interactive whiteboard is costly to use and teachers need adequate training, the interactive whiteboard enhances teacher productivity and learners' learning in the 21st century classroom (Lewis, 2009). On the other hand, mobile devices are preferable as they are much less cost-prohibitive, and learners can receive notices such as learning schedules, course marks; examination time tables, venue allocations and other announcements through SMSs, WhatsApp communication, and electronic mail (Ngesi, et al., 2018).

In fact, the Department of Basic Education has provided almost all the Gauteng secondary school learners with iPads. The Chairperson of the Programme for Educational Tablets in Schools (Pets) Foundation, Michael Rice, responded in an interview with the Mail and Guardian on 2nd of April 2012, that the cultural and psychological issues around e-learning tools in schools could not be underestimated, and have hardly been recognised or researched. The iPads have brought about a new attitude to learning and have vastly improved learners' engagement and involvement in the lesson at schools in the Gauteng province, whether it is a disadvantaged or private school (John, 2012).

In addition, several schools in South Africa have switched from traditional printed textbooks to e-textbooks as a transition to electronic books, with integrated multimedia and interactive functions, such as a glossary lookup, searching option and bookmarking. Thus, learners' learning experiences can be customised through note-taking, highlighting, doing summaries on their own, and collaborating with each other and with other learning communities through the e-textbook platform (Gu et al., 2015). However, e-textbooks have limitations, which involve hardware issues such as the limited battery, life-limited storage capacity depending on a device, and limited power outlets in classrooms

(Embong, 2012). Additionally, rural schools typically have limited technology devices, and rural schools rely heavily on donated equipment due to the free education policy (Johnson et al., 2016; Kaumba et al., 2021). Moreover, learners may experience eye fatigue reading on the screen device for an extended period, while reading on a screen might take longer compared to the printed text, and lastly, the lack of skills by teachers in using e-textbooks in the classroom also hinders the use of the e-textbooks (Van Horne et al., 2017).

The challenges faced by South African teachers hinder the effective use of e-learning tools. Ojo and Adu (2018) mentioned numerous challenges such as inappropriate management support, lack of enough teachers with sufficient knowledge of e-learning tools, high cost of acquiring the e-learning facilities, inadequate network connectivity, lack of adequate policy by the government, large classes, or overpopulation of learners, failure of the government to provide incentives, lack of funding of e-learning tools programmes (Mihai, 2017), lack of reinforcement, lack of proper training and inadequate knowledge of skills.

Ghavifekr et al. (2016) argue that many teachers acknowledge the value of e-learning tools and have acquired competence and confidence in using these e-learning tools, but they still make little use of e-learning tools. Teachers reported that they do not get enough time to plan e-learning lessons, explore different Internet sites, or look for different aspects of e-learning tools because of time limitations. Integrating e-learning tools into teaching and learning is a complex process, challenging teachers' competence in integrating e-learning tools into pedagogical practice. Further, teachers in South Africa have limited opportunities to attend workshops for teacher professional development in e-learning tools integration (Torres & Giddie, 2020).

In a rural context, the challenges of utilizing e-learning tools outweigh the benefits; the schools are experiencing poor quality hardware, poor resource organisation, inappropriate software, and lack of electricity and personal access by teachers (Mashile, 2016). In rural areas, many families still do not know how to utilise educational technology tools in their daily life (Harmon et al., 2007). As a result, parents fail to check their children's results in the existing systems. This omission may be caused by many families not owning computers or not having daily Internet facilities to use (Ghavifekr et al., 2016).

In reality, many South African secondary schools have stringent rules preventing the use of mobile phones for teaching and learning purposes in classrooms. Nonetheless, mobile phones are still found in South African classrooms as the highest available educational technology devices used by teachers and learners, followed by computers (Ngesi et al., 2018). With the cellular network coverage and 90% of youth of school-going age having access to cell phones, they can access the EduBook e-textbook platform to download a variety of electronic textbooks (e-textbooks) (Gelderblom et al., 2019).

People in rural contexts find it difficult to access free e-learning tools because of the poor internet connection, or they cannot afford the expensive devices and the expensive data. Rural learners would not have access to necessary tools to participate in e-learning, which is a concern when implementing the e-learning approach for teaching and learning the language. Because of the cost of quality devices and the high cost of data for internet access, it is expensive to access the free e-learning tools. So learners rely on mobile phones, which might be a better option. Since mobile phones are prohibited in schools, creating mobile applications for mobile phones has not been accepted by several stakeholders in the educational community. The National Association of School Governing Bodies (NASGB) called for a prohibition on using cell phones in South African schools (Mwanza et al., 2018). The NASGB claimed that mobile phones have the potential for learner disturbance and classroom interruption such as online bullying, misbehaviour (Rolfe & Cheek, 2012), addiction to social networks, and issues of privacy and self-representation (Burak, 2012).

The South African educational system continued to face massive challenges when the South African government's implementation of social distancing led to the temporary closure of schools to curb the spread of the Coronavirus (COVID-19) (Mbunge, 2020). The Coronavirus causes severe acute respiratory syndrome and causes COVID-19 infections. COVID-19 positive individuals can be symptomatic or asymptomatic during the early stages of infection. The symptoms of the infection are fever, dry cough, shortness of breath, tiredness, headache, and general body weakness (Zhong et al., 2020). Since the virus is highly infectious, it is better to keep your social distance. As a result, teaching and learning activities, including the academic calendar, were disrupted. However,

COVID-19 television and radio curriculum support programmes for learners were introduced as online learner support programmes by the Department of Basic Education (DBE). The COVID-19 pandemic resulted in school closure during the lockdown, and teachers needed to adopt online social media platforms such as WhatsApps to facilitate learning (Mahaye, 2020).

The arrival of the COVID-19 pandemic has prompted a high demand for e-learning tools for online teaching and learning. This increased demand for e-learning tools has brought new challenges across the globe. The pandemic highlighted the importance of investing in technological infrastructure. For remote teaching and learning to work effectively, it requires basic skills, essential tools, and necessary training (Balida & Encarnacion, 2020). However, learners continued to struggle during implementation in a similar way as the teachers. Several teachers resisted the adoption of e-learning tools because of their lack of technical skills. Other challenges faced when implementing e-learning tools were technical difficulties, such as standards, infrastructure, access, and bandwidth requirements, which are rapidly increasing (Al-Mubireek, 2019).

In this regard, the South African Department of Education needs to focus on the main challenge of efficiently providing appropriate e-learning tools to rural and urban areas. The COVID-19 pandemic revealed many challenges based on online learning in rural areas, which contributes to schools in South Africa experiencing diverse access to educational technology (Torres & Giddie, 2020). Although online learning seemed to be the best way to continue with the syllabus delivery during the lockdown period, teachers and learners could not connect due to limited or unavailable network access in some rural contexts, and they failed to access online learning materials from the Department Of Basic Education. Learning from home required learners to have devices and e-learning tools to connect for online learning. This requirement created a challenge for rural learners who do not have smartphones, laptops, and computers at home (Dube, 2020). The learners who have devices at home could also not benefit from this online learning because of little or no prior experience with online learning. Further, an immediate transition to online learning can result in poor educational outcomes for learners because of a lack of familiarity with tools, a lack of environment at home that is conducive to

support online learning, and an absence of congruence between what is learned online and taught in class (World Bank, 2020).

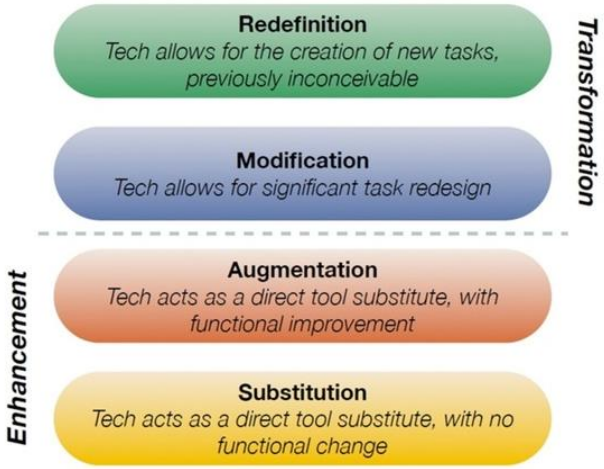
Dube (2020), concludes that the lockdown regulations to combat COVID-19 contributed to the dilemmas that learners in rural areas already had. His study found that most rural learners used internet cafes for all their online needs; with internet cafes closed, learners were left stranded. Nevertheless, if internet cafes were opened, they would be overcrowded, expensive, and have poor connectivity since everyone in the community relied on Internet cafés. Plus, Internet data is still costly and deprives learners and teachers from rural communities of access to online learning (Letseka et al., 2018). Dube (2020) also listed several suggestions that can enhance online teaching and learning in rural schools, such as the learning approach of social inclusion, equal access to learning resources, community support, and consistent teacher development on e-learning tools.

2.6 Theoretical framework in relation to the study

“The theoretical framework is a set of terms and relationships within which the problem is formulated and solved” (Badugela, 2012, p. 11). The study used theoretical framework merged with an analytical framework and learning theories to guide and interpret its frame of reference. Analytical framework is when researchers involved in the analysis developed a set of codes organised into categories that are useful for managing and organizing data by referencing them (Gale et al., 2013). The learning activities in the study relate to learning theories such as cognitivism, social constructivism, behaviorism, and connectivism, which all correspond to the SAMR model. The study used the SAMR (Puentedura, 2006) model as its frame of reference, simply because the researcher was interested in knowing to what extent e-learning tools enhance teaching and learning. The researcher then found the SAMR model as a theoretical framework and an analytical framework is valuable because it was created to encourage teachers to use technology in different stages to improve the standard of their teaching and, therefore, the quality of the student’s learning. The SAMR model is a framework that categorises four different degrees of technology integration in a classroom. The “SAMR” letters stand for Substitution, Augmentation, Modification, and Redefinition (Puentedura, 2006) as seen in Figure 2.2.

Figure 2.2

SAMR Model



(Puentedura, 2006)

The SAMR model (Puentedura, 2006) classifies technology use for learning activities as follows:

Substitution is the simplest way to integrate e-learning tools into the teaching and learning of languages. The traditional activity is replaced with the same activity, but technology is used. For example, in language learning, a word processing application replaces a pen/pencil in a writing assignment.

Augmentation is whereby technology resources substitute a learning activity and add functional improvement to the learning activity. The same example can be used to describe the ability to convert text to speech within a word processing program.

Modification is where learning activities are redesigned by the integration of technology. Technology resources allow a substantial redesign of the learning activity. Using the same example, a paper written with word processing software that can convert text to speech might be posted on a blog, allowing other learners to comment and help improve the paper.

Redefinition refers to the creation of new tasks that would have been impossible before technology. The creation of a multimedia presentation could be used instead of writing a word-processing document to convey logical progression (Romrell et al., 2019).

Substitution and augmentation classification have learning activities developed to enhance learning, while the modification and redefinition classifications have learning activities meant to transform learning (Puentedura, 2013). Therefore, developers should be focused on designing technology tools that conform to the needs of the learners, enabling redesigned and developed learning activities, and opening up new learning opportunities that were not previously available. Instead of replacing the instructor with technology, authentic technology-based instruction focuses on enhancing and transforming the learning process (Howlett et al., 2019).

The SAMR model has been used as a tool by teachers to evaluate the integration of technology in their instruction. Furthermore, several researchers have focused on the use of technology tools such as Virtual world avatars (Hopkyns & Nicoll, 2014), Instagram (Al-Ali, 2014), Facebook, PowerPoint Projector, and Twitter (Jude et al., 2014) with the SAMR model in language learning. As a result, the use of technology tools in language learning has a more positive impact at both the modification and redefinition levels, particularly on curricula and language content and the evolving roles and competencies of teachers. The SAMR Model has been very helpful for language teachers looking at how to integrate technology into their classrooms (Kukulska-Hulme et al., 2017).

2.7 Conclusion

The chapter has presented a literature review that explored various e-learning tools that can be integrated into teaching and learning. Thereafter, it discussed the advantages of integrating e-learning tools to enhance language development, the South African school context, and the challenges South African rural schools face when integrating e-learning tools. The challenges encountered with integrating e-learning tools in rural areas, which hindered the enhancement and transformation of teaching and learning, were highlighted. The chapter concludes with the theoretical framework in relation to the study.

In chapter three, the research methodology will be discussed. In this interpretive, qualitative study, a case study approach was used to evaluate e-learning tools and find challenges and lessons that can be learned from integrating e-learning tools in a rural context to enhance the learning and teaching of the IsiNdebele language. The study was carried out using a convenient, purposeful, non-probability sampling method, various data collection instruments, and content data analysis. The chapter will conclude with a discussion of quality criteria and ethical considerations.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This section explains the methods used in the study and how the study was carried out. The section details the paradigmatic approaches, research methodology, research design, sampling methods, data collection strategies, data analysis, methodological norms, and ethical considerations associated with this study.

3.2 Paradigmatic Approaches

In this study, the interpretivist paradigm was used as it refers to an individual having the ability to construct meanings and understandings in a particular context, socially and experientially (Cohen & Crabtree, 2006). The practical research study was conducted in a rural secondary school classroom in the Sekhukhune District of Limpopo Province. The researcher gathered the study data at hand while teaching the prepared lessons to the class of Grade 11 learners. The researcher emerged in the research process (study) as a teacher as well as a researcher. It was an authentic learning environment where findings emerged through the processes of observation, document analysis, collecting of questionnaire data, and self-reflection. The researcher was completely involved in the teaching and learning activities with the participants in their rural classroom context, as she observed, facilitated, and reflected on the learning processes.

3.3 Qualitative Research Method

This is a qualitative research study that is supported by some quantitative descriptive data. Qualitative research was chosen mainly as explanatory research, which the researchers used to understand underlying opinions, reasons, and motivation (Maree, 2015). The qualitative nature of this study helped to understand the research at hand from the rural contextual perspective obtained through recording the experiences and meanings of the researcher, observers, and class group of Grade 11 learners. These experiences and meanings helped in selecting suitable e-learning tools, enlightening challenges, and learning lessons through e-learning tool integration to enhance and transform the teaching and learning of the IsiNdebele language.

3.4 Case Study Design

In this study, a case study approach was used as the research design, as it studies the empirical inquiry to understand a real-life phenomenon in-depth, using multiple data sources, especially when the boundaries between context and phenomenon are not clear (Yin, 2009). The study aimed at explaining the presumed causal links in real-life interventions that are too complex for the experimental strategies and survey (Baxter & Jack, 2008). The research study was conducted in a rural secondary school classroom context, where it evaluated both the e-learning tool integration and e-learning tools that can be selected to be integrated by an IsiNdebele teacher. The study further used multiple data sources to identify challenges that can be encountered when integrating the e-learning tools in the teaching and learning of the IsiNdebele home language in the rural context. It also provided lessons that could be learned in the same situation to enhance the learning and teaching of the IsiNdebele home language.

The elements of the SAMR model were used as a structuring principle for the study. Four lessons were presented by the researcher, an IsiNdebele teacher, and each lesson was integrated with one of the selected e-learning tools. Each lesson was prepared on a different level of the SAMR model. E-learning tools are integrated differently in each level of the SAMR model, which means the challenges encountered in each level of the SAMR model are also different. Therefore, the study aimed at finding those specific challenges at each level of the SAMR model. The purpose was also to introduce e-learning tools in different degrees of technology integration in a classroom. For example, Lesson Number 1 integrated a media player to substitute the traditional teaching activity, where a teacher was supposed to teach the entire concept and learners listened and took notes.

In Lesson Number 2, some familiar traditional teaching activities were replaced to integrate technology and functionally improve (augmentation) the learning processes. A teacher created a teacher-learner dialogue by creating a virtual Mind map, where learners helped each other in a class discussion to fill in the mind map to awaken prior knowledge and construct new knowledge. For development, learners paired and designed their mind maps using Microsoft Word on their devices, with different subtopics, and submitted their soft copies to the teacher to be evaluated and shared with the rest of the class. These

first two lessons, which are classified as substitution and augmentation in the SAMR model, have learning activities developed to enhance learning.

The following two lessons which are modification and redefinition classifications in the SAMR model, have learning activities that are meant to transform learning (Puentedura, 2013). In Lesson Number 3, the teacher designed two tests, one in Microsoft PowerPoint, and another in Microsoft Excel. The Microsoft PowerPoint test was used as a practise test and the Microsoft Excel test as a formal assessment. PowerPoint and Microsoft Excel were not designed for assessments. In this lesson, they were modified and redesigned to create multiple-choice tests, which are self-marked and provide immediate feedback. This is impossible with pen and paper.

Lesson Number 4 was tested at the highest level of the SAMR model (Redifination). Learners were given an assignment to post a video, canvas, game, or assessment on a Facebook page created specifically for a class group of Grade 11 learners (participants). The privacy settings were modified to allow only the teacher to invite and manage learners, and learners had the least privileges, such as liking, commenting, reacting, and uploading multimedia, to ensure safety. After it was uploaded, the learners were told to continue with the discussion on the Facebook page at any time after class and they could always come back to these posts to remind themselves and revise the topics in the future.

3.5 Sampling Methods

A convenient, purposeful, non-probability sampling method was used to study the case. The convenient purposeful sample is where population elements are selected at convenient circumstances and studied purposefully to gain information and knowledge (Creswell, 2007). Conveniently the sample consisted of one teacher who was also the researcher of the study, simply because she was an IsiNdebele teacher, teaching in a rural secondary school. The teacher presented the four lessons that integrated four different e-learning tools to teach the IsiNdebele home language to a class of 20 Grade, 11 learners that she has been teaching all along to enhance the teaching and learning of IsiNdebele. There were ten females and ten males, age 15-17, all of whom speak IsiNdebele as their mother tongue, meaning that they have been learning the language

from an early age. The researcher also invited the observers to observe the lessons and reflect on teaching and learning using e-learning tools. These observers included the curriculum adviser (CA), language head of the department (HOD), and peer language teachers. The observers were selected based on their expertise and knowledge in teaching in rural areas, teaching the IsiNdebele home language, and using technology to teach, based on their experiences on how teaching and learning occur in a classroom.

Observers' profile

Observers responded to five biographical questions, where they were asked for information about their backgrounds such as gender, teaching experience, professional qualifications, technological devices owned, and the e-learning tools mostly used (Table 3.1).

Table 3.1

Observers' profile

Observers	Gender	Teaching experience (years)	Professional qualification	Technological devices owned	E-learning tools mostly used
Curriculum adviser (CA)	Female	31	B.A. (African languages)	Smartphone Laptop	WhatsApp Email
Language head of the department (HOD)	Male	25	B.Ed. (Teaching Practice)	Smartphone	WhatsApp PDF reader Microsoft Word, Excel, and PowerPoint
Peer language teacher	Female	20	B.Ed. Hons. (honours degree)	Smartphone Laptop	WhatsApp
Peer language teacher (Assistant Teacher)	Male	1	B.Ed. (Teaching degree)	Smartphone Tablet	Smart-board

As indicated in Table 3.1, two of the observers were males, and two were females. Each of them has a teaching qualification, except for the curriculum adviser (CA), who has a qualification in African languages. As observers, these individuals show extensive experience in teaching, with an average of more than 20 years in the classroom, apart from the assistant teacher. All the observers have access to either a smartphone, laptop, or tablet, and all of them integrate e-learning tools in their teaching and learning practice. These observations qualify the observers as knowledgeable in either teaching or integrating e-learning tools.

3.6 Data collection instruments

Data was collected from different types of data collection instruments, such as a document analysis, learners' written questionnaire (Appendix D), observers' interview protocol (Appendix E), and a teacher's (also the researcher's) self-reflective journal (Appendix F). The document analysis protocol entails The great app checklist (Appendix A) (Vincent, 2012), Evaluation tools for instructional function (Appendix B), and Lesson plan (Appendix C). As part of the lesson planning and preparation for the four lessons, the documents in the document analysis protocol were completed based on the e-learning tools to be evaluated. Thereafter, the learners completed a written questionnaire (Appendix D) immediately after each lesson, while the invited observer remained after the lesson to be interviewed (Appendix E) as scheduled. At the end of each lesson the researcher completed a self-reflection journal (Appendix F). The self-reflective journal of the researcher/teacher was used to examine personal assumptions and goals and to explain subjectivities and individual belief systems (Ortlipp, 2008). The researcher has emerged in the setting as both the teacher and the researcher. She observed the process of teaching and learning using the e-learning tools and invited independent observers to observe and reflect without any involvement in the teaching processes.

The great app checklist (Appendix A)

Rural areas have limited technology resources and other external factors that may hinder using some e-learning tools, such as Internet connection and limited electric sockets to connect electric appliances. This checklist was adapted to focus on various e-learning tools, such as Plickers, Kahoot!, Weebly, GoConqr, Goosechase, and Microsoft office. From this tool, the researcher could select Youtube, Media Player, SHAREit, GoConqr, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, and Facebook tools that supported the limited technology resources and operated well when utilised in rural contexts for teaching and learning IsiNdebele home language, except for YouTube and GoConqr.

Evaluation tool for instructional function (Appendix B)

An evaluation tool for the instructional function was used as a platform for practical analysis of the e-learning tools' features (Hornack, 2011). The e-learning tools that met

the previously mentioned checklist were selected to be evaluated for instructional function. Knowing the e-learning tools' features helped prepare a teaching lesson where the e-learning tool was integrated into a particular element of the SAMR model. This knowledge also helped the teacher plan a lesson that accommodated different characteristics of the learning environment and content (Lee & Kim, 2015).

Lesson plan template (Appendix C)

A lesson plan template was used to plan the four lessons, showing all the activities that were done in class with the use of the e-learning tools. The lesson plans showed how Media Player, Microsoft Word, Microsoft PowerPoint, Microsoft Excel, and Facebook were integrated into the four lessons to enhance and transform the teaching of the IsiNdebele home language.

Learners' written questionnaire (Appendix D)

The written questionnaire comprises guiding questions refined to match each e-learning tool used at each SAMR level before data collection. The written questionnaire had open-ended and closed questions to gather information about learners' experience, perceptions, and success of integrating the e-learning tool to learn IsiNdebele home language.

Observers' interview questions (Appendix E)

A semi-structured interview protocol was used to control the pace of the interview by preparing standardised and straightforward interview questions (Maree, 2015). This interview comprised open questions that were asked and followed by probing and clarification questions to verify the emerging data. The process of the interview involved all the observers being asked the same set of questions, by the same interviewer and in the same order. The technique helped to gather valid information as all observers where asked the same questions in the same sequence to collect the data that will be reliable. Furthermore, the interview technique provided insight into specific information and trends pertaining to the case studied. The participants of these interviews included the curriculum adviser (CA), the school head of the department in languages (HOD), and peer language teachers who were invited to observe the lesson and reflect on the teaching

and learning using e-learning tools. The observers were selected based on their expertise and knowledge in teaching in rural areas, in teaching IsiNdebele home language, and using technology to teach, based on their experiences on how teaching and learning take place in a classroom. The interviewer met with the interviewees through scheduled appointments made with them.

Teacher's self-reflective journal template (Appendix F)

The self-reflective journal comprises a set of open-ended questions that the teacher (researcher) answered after the lesson implementation. The teacher used these open-ended questions to reflect on the extent of the e-learning tools integration in the classroom. The teacher intended to demonstrate the integration of e-learning tools from enhancing to transforming teaching and learning. The teacher's self-reflective journal was used to reflect on the challenges and lessons learned from integrating the selected e-learning tools to teaching and learning IsiNdebele language. The teacher reflected on whether the e-learning tools were correctly chosen, and the teacher's expectation on the e-learning tool during planning using The great app checklist (Appendix C), Evaluation tool for instructional function (Appendix B) and Lesson plan template (Appendix C*)* was experienced during the lesson.

3.7 Data Analysis

A qualitative research philosophy of content analysis was used to analyse the data of the document analysis, learners' written questionnaire (Appendix D), observers' interview protocol (Appendix E), and a teacher's (also the researcher's) self-reflective journal (Appendix F). Content analysis is a research method used to interpret the content of documents, text, or speech data through the systematic classification process of coding and identifying themes and patterns (Weber, 1990). In this study, the researcher has used content analysis for the document analysis; a systematic procedure used to analyse and interpret documentary evidence to answer research questions (Maree, 2015). The documents analysed in this study were: The great app checklist (Appendix A), an evaluation tool for instructional function (Appendix B), a lesson plan template (Appendix C), learners' written questionnaire (Appendix D), observers' interview questions (Appendix E) and teachers' Self-Reflective Journal template (Appendix F). Content

analysis was used to analyse the data through the qualitative data analysis software called Atlas.Ti. The Atlas.Ti software allows you to organize your text, graphic, audio, and visual data files, as well as your coding, memos, and findings, into a project. Moreover, each segment of information can be coded, annotated, and compared (Creswell, 2007). The analysis of content through Atlas.Ti involved coding open-ended questions in the learners' written questionnaire (Appendix D); categorising, comparing, and analysing trends, themes, and patterns from the raw data based on all the above-mentioned data collection instruments.

Analysing data involves gaining an understanding of the data that has been collected, ultimately leading to the ability to answer research questions. By using the document analysis instruments mentioned above, the researcher critically evaluated how appropriate e-learning tools would be for integration in the rural context for IsiNdebele language lessons. Thereafter, integrated the selected e-learning tools into an IsiNdebele language lesson and analysed whether they are appropriate for teaching and learning IsiNdebele language in a rural context based on the challenges that emerged from the documented (researcher's) teacher's self-reflective journal, observers' Interview transcripts, and learners' written questionnaires. Lastly, the researcher analysed the solutions to the challenges gathered and lessons learned that were presented by the teacher's self-reflective journal, observers, and learners to answer the research questions.

3.8 Quality Criteria

There are four criteria to be considered, namely credibility, dependability, transferability, and conformability to ensure the trustworthiness of the study. Credibility focuses on the reader being able to believe and trust the quality of findings (Yin, 2009). The study used a crystallisation process involving different data collection methods such as document analysis, written questionnaires, semi-structured interviews, and self-reflective journals to compensate for the individual limitation of being both the researcher and participants.

The dependability of the study is the constancy of data after the research has been done. Immediately after the data collection, the dependability was tested by checking the

conceptualisation of the study, the application of the SAMR model in all four lessons presented, whether consistent procedures were followed in data collection and whether the findings were well interpreted and presented. The researcher found the study to be constant.

Transferability refers to the readers being able to connect the research between elements of the research and the readers' own experience or research (Maree, 2015). The study was evaluated as it developed through reflective commentary to check the effectiveness of the techniques.

Lastly, conformability is the extent to which the results of the research is determined by the participants and not by the researcher's bias, interest, or motivation (Shenton, 2004). The interview processes involved all the participants being asked the same set of questions by the same interviewer and in the same sequence to ensure that the data collected from the participants was more comparable to avoid bias. Moreover, the researcher avoided the researcher's bias, interest, and motivation by documenting all the experiences and meanings guided by the teacher's self-reflective journal template (Appendix F), which was written during and immediatey after the lessons to capture all the information valueable towards answering the research questions.

3.9 Ethical Considerations

In the design of a research study, there are a number of ethical principles that should be considered. These principles include obtaining informed consent forms from the research participants, reducing the risk of harm to the potential participants, and protecting the participants' anonymity and confidentiality. The use of deceptive practices, such as the participants being told that they would receive compensation for their participation while they did not, were avoided (Jackson, 2013).

After obtaining ethical clearance from the Faculty of Education's ethical committee, permission to conduct the research study was requested from the Limpopo Department of Education, Sekhukhune District. A consent letter to ask permission was written from the University of Pretoria. Informed consent letters were sent to parents and observers,

and assent forms were presented to learners to read and sign before the study or research could start. Before the participants signed the assent or consent forms, they were educated on their right to withdraw at any stage of the study. This was explained to them to decrease the participants' feeling of pressure or false information. The researcher as a participant avoided using discriminatory, offensive, or any other unacceptable language during the participation and formulation of the questionnaire. Participants' names were not mentioned; instead, they were changed to "Participant number" to protect their anonymity and confidentiality. The study took place in the participants' learning classroom to ensure the safety and comfort of the participants during the interaction. The study followed the University of Pretoria's ethical procedures, with reference number EDU130/20.

3.10 Conclusion

The interpretive, qualitative nature of this case study was defined. The chapter continues to describe an outline of the sampling methods, data analysis, quality criteria, and ethical considerations that were adopted. The data collection process was discussed with the target sample size of 20 Grade 11 learners, four observers, and the teacher. The various types of data collection instruments used, such as the document analysis protocol (The great App checklist, evaluation tools for instructional function and lesson plan), learners' written questionnaire, observers' interview protocol, and a teacher's reflective journal, were detailed in this chapter. The chapter showed the techniques used in the study to make sure that the results were not biased, and the study investigated what it was designed to investigate. The techniques were guaranteed and used as stated in this chapter to receive optimal results. The following chapter presents the findings collected from the research participants.

CHAPTER FOUR: FINDINGS

4.1 Introduction

This chapter discusses the interpretation of events at each level of the SAMR Model, as observed and reported by the researcher with contributions from participants. The results discuss the participants' (observers', learners', and a teacher's) experiences during the implementation of four lessons integrating e-learning tools to enhance teaching and learning of IsiNdebele in a rural secondary school in the Limpopo Province. The participants' experiences were collected using learners' written questionnaire (Appendix D), observers' interview protocol (Appendix E), and a teacher's reflective journal (Appendix F).

The findings are presented in three sections. The first section unpacks the Grade 11 learners' profiles concerning technology in their daily lives (Section 4.2). The second section presents the findings addressing Research Questions 1 and 2 under each level of the SAMR Model (Section 4.4, 4.5, 4.6, and 4.7). The findings for Research Question 1, which looks at how appropriate the selected e-learning tools are for teaching and learning in a rural secondary school context, were obtained from the great App checklist (Appendix A), evaluation tools for instructional function (Appendix B), and the lesson plan (Appendix C). The findings addressing Research Question 2, which focus on the challenges experienced by rural IsiNdebele teachers when they integrate the selected e-learning tools into their lessons, were obtained from learners' written questionnaire (Appendix D), observers' interview protocol (Appendix E), and a teacher's reflective journal (Appendix F). Therefore, the third section aims at addressing Research Question 3 (Section 4.8), which focuses on the lessons that can be learned from implementing the selected e-learning tools in a rural IsiNdebele classroom. The findings for this research question were obtained from learners' written questionnaire (Appendix D), observers' interview protocol (Appendix E), and a teacher's reflective journal (Appendix F).

4.2 Grade 11 Learners' Profile

It was important for the researcher to understand the background (technologically) of the participants to put the study in perspective/context. As such, the first few questions of the

questionnaire were intended to accomplish this goal. The questions concerned the availability and the variety of devices to which the participants had access. Table 4.1 below represents the number of learners (n=20) who own or have access to the listed technology devices at home.

Table 4.1

Numbers of learners who own or have specific technology devices at home.

Technology devices	**Number of learners**
Smartphone	17
Tablet/iPad	02
Laptop	01
Computer	02
Television/Radio	14
Other	-
None of the above	-

From the sample of 20 learners, it was clear that most of the learners (17/20) have access to smartphones at home. These responses show that smartphones are more available and commonly used in the rural context than laptops, computers, or tablets/iPads. It was essential to the researcher to know which devices the participants possessed and how they used them. This information would give us an overview of how rural learners have used technology throughout their educational pursuits and what kind of practical experience they had before participating in this study. Table 4.2 below shows how many rural learners normally utilise technology devices for educational purposes.

Table 4.2

Using technological devices for educational purposes

Educational purposes	Number of learners
Download educational apps	15
Download educational videos	04
Watch/listen to educational programs	06
Share information with peers	03
Interact with peers	08
Reading	05
Complete assessments	-
Play games	10
Other	-

It was encouraging to see that 15 of the 20 learners use the technology devices to download educational apps. This indicates that the learners have already experimented with educational apps, and it might be easy for them to use e-learning tools in a classroom. From the responses, learners also downloaded educational videos (4), watched educational programmes (6), or read documents (5). Not only did they download educational content, but the learners also used their technology devices to share information (3) and interact with peers (8). Some learners also indicated that they used their devices for playing games (10). The above data indicates that learners frequently use technology devices to download educational apps, play games, and interact with peers. Learners showed positive use of their devices for educational purposes. None of the learners responded to using their devices for completing assessments. Based on this information, most learners are familiar with using technology to learn and have a limited level of technology literacy. As a result, teachers will find it easier to gradually integrate

e-learning tools into teaching and learning since learners will be able to participate in learning

4.3 Application of the SAMR Model

Four IsiNdebele lessons were planned and presented in the classroom. The four IsiNdebele lessons were presented by the researcher, an IsiNdebele teacher, guided by the elements of the SAMR model, which was used as a structuring principle for the study. Table 4.3 shows the summary of four lessons, their SAMR levels, cognitive tools, the learning outcome, the selected e-learning tools used during the lesson, with the planned selected e-learning tool in brackets, and their links.

The different tools integrated into different SAMR levels guided the participants towards the language learning outcome (mentioned in Table 4.3) and promoted 21st century technology skills (mentioned in Chapter 2). With the above-mentioned activities, the researcher wanted to understand the extent to which e-learning tools enhance the teaching and learning of IsiNdebele as a home language in a rural secondary school context.

Table 4.3

Application of the SAMR model in the four lessons

Lessons	***Lesson 1***	***Lesson 2***	***Lesson 3***	***Lesson 4***
SAMR LEVELS	**Substitution**	**Augmentation**	**Modification**	**Redefinition**
Cognitive tools	Knowledge construction tool	Visualisation tool	Dynamic modelling tools	Information interpretation tools
Learning outcome	Identify the characteristics of a dramatic plot and communicate what you have learned in the proper language. Access learning material from the Internet, make your video and share it with other learners using an Internet sharing platform.	Describe the characteristics of a drama setting based on the prescribed book. Co-create a Mind map that summarises all the aspects and relationships between the elements, topics, and subtopics of a drama.	Define the theme, genre, and types of characters found in the prescribed drama book. Create assessments and multimedia material using e-learning tools to demonstrate knowledge about the drama plot, setting, theme, genre, and types of characters found in the prescribed drama book.	Analyse the prescribed book in terms of characters, point of view, theme, background, dramatic structure, tone, and ending. Create and share a multimedia presentation that summarises any topic of their subject.
E-learning tools used.	Media Player and SHAREit * (YouTube)	Microsoft Word* (GoConqr)	Microsoft PowerPoint & Excel	Facebook Page

Links	https://youtu.be/s7FGW7DZBoM	https://www.goconqr.com/mindmap/24708430/isizinda-somdlalo?id=24708430&locale=en-US&utm_campaign=Auto+Gen+emails&utm_medium=Email&utm_source=SendGrid	https://96436075-b74f-4b9f-8e84-35149fe82d9d.filesusr.com/ugd/4d9afe_b4c4b1f4e3df4de8ac6a062cfc7ce344.xlsx?dn=Excel%20Test%202.xlsx	https://www.facebook.com/groups/758381194746870

* The actual e-learning tool used during the lesson, with the planned e-learning tool indicated in brackets.

Table 4.3 describes how lessons were presented, integrating four selected e-learning tools at each level of the SAMR Model. The four lessons were designed to use different cognitive tools to obtain the skills and knowledge expected at the end of each lesson. During the lesson preparation, the researcher selected four e-learning tools to be integrated into each of the four lessons; unfortunately, two (YouTube and GoConqr) out of the four selected e-learning tools did not work due to the school's limited Wi-Fi connection. These tools are indicated in brackets in Table 4.3. The selected e-learning tools that did not work were replaced with other e-learning tools with functions (Media Player, SHAREit, and Microsoft Word) that can be used offline for the same cognitive purposes and under the same level of the SAMR Model.

4.4 Substitution

The following discussion describes the expected learning outcomes, the processes of implementation of the selected e-learning tools, and the selected e-learning tools. Secondly, it describes the appropriateness of the selected e-learning tool that was utilised to replace learning activities traditionally done without using the e-learning tool. Lastly, the challenges experienced by rural IsiNdebele teachers when substituting the traditional learning activities with the use of the selected e-learning tools will be discussed.

In Lesson Number 1, it was planned that YouTube should replace direct instruction; instead of the teacher presenting the topic content to learners, the YouTube video would explain the content to learners. The teacher could easily distribute the learning materials to learners through YouTube, as all learners could access YouTube. This means that the traditional teaching activity of the teacher distributing learning materials to learners would be substituted by the use of YouTube, i.e. YouTube would replace the manual actions of the teacher. Substitution means replacing a learning activity with an e-learning tool, where the learning activity could have been done without using the e-learning tool (Romrell et al., 2016).

The learning outcomes (LO) for the first lesson were for the learners to identify the characteristics of a dramatic plot and communicate what they have learned in the proper language (LO1). Secondly, the learners had to access learning material from the Internet,

make their video, and share it with other learners using an internet sharing platform (LO2). To achieve the second learning outcome (LO2), YouTube was chosen as an e-learning tool to provide an easy way to distribute or share learning materials among learners or from teachers to learners. Therefore, the lesson was planned to be conducted in the following order: The topic for this lesson was a Dramatic Plot (Isakhiwana Somdlalo) (LO3), described by the relevant CAPs document. YouTube was selected as an e-learning tool in this lesson to replace the aforementioned traditional teaching method (LO3). The theme to contextualise the lesson or link the lesson to learners' real-world was "Building a house". Learners following the step-by-step method to access the YouTube video is compared to following a step-by-step method to “Building a house”. The learners needed to follow the steps to access the prescribed YouTube video and watch it (LO4).

The teacher was supposed to connect a laptop to a data projector in class to use YouTube. The teacher then had to show learners how they could use a link/URL given to them to access videos or any material from the Internet, particularly on YouTube. The learners had to follow the link to a video on YouTube about “Dramatic Plot” and answer certain questions based on the video in class. The learners had five minutes to watch the video and then answer the questions on paper. This would form the development aspect of the lesson. After that, as part of remedial/correction, the teacher would repeat the steps to access material from YouTube using a link to make sure they grasped the skills of accessing learning materials from YouTube. The teacher then repeated the video and, together with the learners, answered the questions in a class discussion where learners raised their hands to answer the questions and discuss whether the answer was correct or not as a class. This discussion with learners aimed at revealing whether the learners have achieved the expected lesson outcomes of the topic based on the aims and skills prescribed by the CAPs document. Lastly, the teacher would show them how this video was uploaded on YouTube step by step, for learners to post their learning material in the following lessons or for future purposes.

YouTube as Substitution

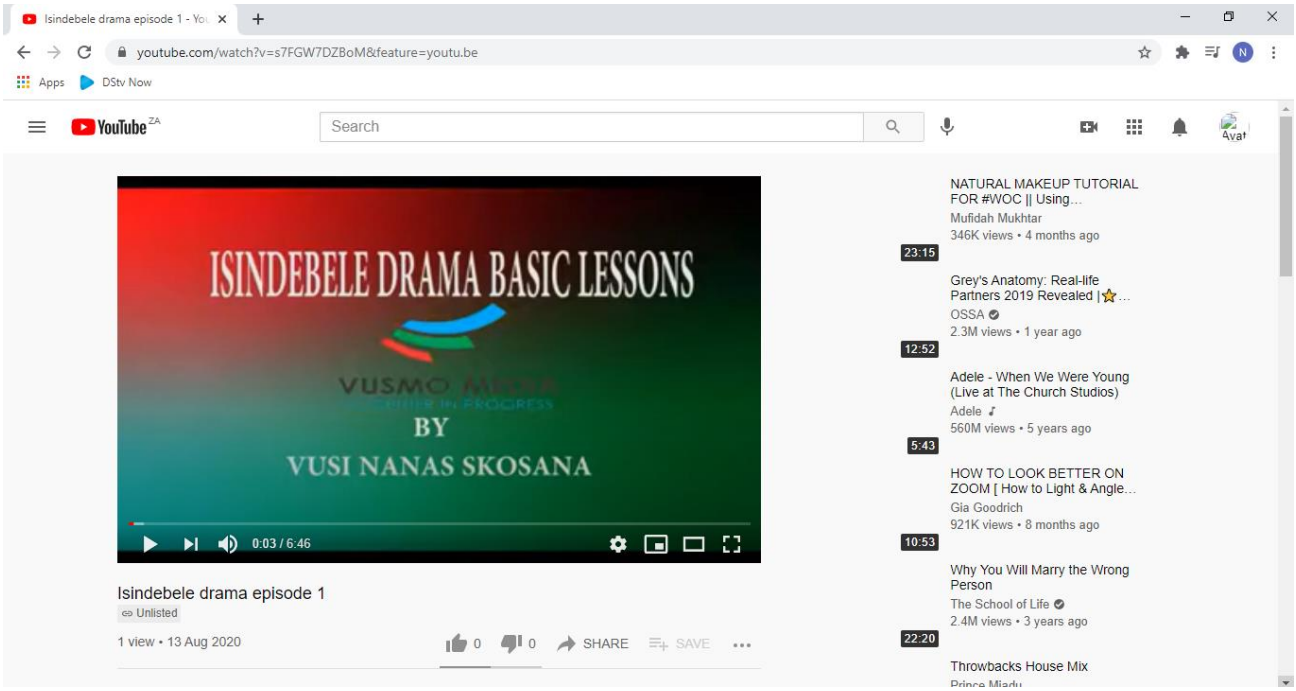
YouTube is a video-sharing platform where you can upload videos or watch videos of someone or something. As a user, you can either like, share, and comment on other

peoples' videos. As a video-sharing website, it is usually used to search for music videos, comedy shows, "how-to guides", recipes and educational videos (Moghavvemi et al., 2018).

YouTube has features that allow you to fast-forward, pause, or rewind; search; sign in to your account; like, share, save, and comment. It is easy to use with a search engine, which searches and identifies items uploaded to the database that corresponds to the keyword(s) specified by the user. It allows videos to be uploaded to the public or privately. Viewers can share, like, or comment on the video they watched. It aligns with the syllabus and the curriculum since teachers have uploaded educational videos to the website for learners to watch at home or anywhere.

Figure 4.1

YouTube website



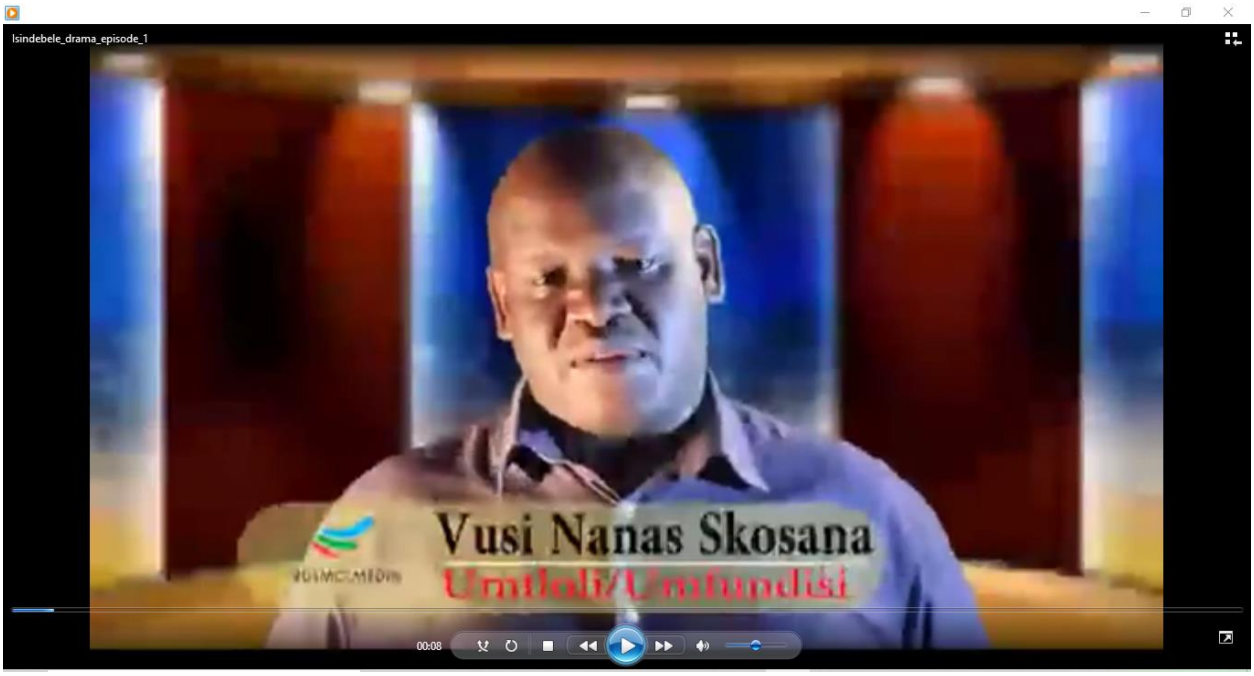
On the day of the lesson implementation, the school's Wi-Fi was down, and the tablets could not access the Internet to visit the site. Due to the Internet connection failure, the teacher downloaded the video and used the "SHAREit" application to send it to learners' tablets. To save time, those learners who received the video quickly shared the video with other learners. So all the learners had the video on their devices, which they watched using "Media Player", instead of YouTube.

Media Player and SHAREit as Substitution

Media player is a software program used to play multimedia computer files, e.g. audio and videos files such as mp3 songs, video clips, or movies. It has standard media control icons such as play, pause, fast-forwards, rewind, and stop buttons.

Figure 4.2

Windows Media Player



Due to not being able to connect to the Internet, few changes were made to the lesson plan. Learners were taught how to share the downloaded video amongst themselves to introduce the lesson, but only some of the learners received the video since the SHAREit application can only share to one device at a time. Afterwards, those who did receive the video shared it with the rest of the class with the "SHAREit" application. The application worked with wireless tethering and is not dependent on internet access. The lesson theme of "building a house" was now associated with the steps of sharing videos through the "SHAREit" application. The process went fast until we reached the development phase. Using a media player and SHAREit replaced the traditional teaching activities of a teacher explaining a concept and sharing learning materials. Despite this, it disadvantages the learners, as they will not be able to access other videos related to the topic from YouTube as SHAREit requires learners to be in the same room to share multimedia. Learners watched the video twice, and questions were given to them to answer on paper. Once they were done, the scripts were collected. They were allowed to watch the video again, rewind, fast-forward, and pause the video. After 10 minutes of watching, we could start

with the remedial actions/corrections. Therefore, as part of recapping the main points, we had a class discussion. The teacher asked questions from the class activity that learners completed; they answered the questions and discussed the answers further.

4.4.1 Appropriateness of e-learning tools (RQ1)

The study used “The great app checklist” (Appendix A) and the “Evaluation tool for instructional function” (Appendix B) to determine the e-learning tool that can be used to replace other traditional teaching and learning activities in an IsiNdebele rural classroom. A list of e-learning tools was found that can be used to substitute the traditional teaching and learning activities. Although YouTube was seen as appropriate for the lesson, it was not used because of unreliable network and Wi-Fi connection challenges. The lesson was adapted to use Media Player and SHAREit as newly selected e-learning tools. The newly selected e-learning tools were seen as appropriate e-learning tools to substitute direct instruction for teaching IsiNdebele in a rural secondary school context. This appropriateness is demonstrated through the successful lesson implementation, especially in a rural area where Internet and Wi-Fi access is limited, and most of the expected learning outcomes are being reached or achieved.

After the lesson critique was presented, it was established that most lesson outcomes were achieved, except learning how to access learning material from the Internet using a link/URL (LO2). Firstly, learners were able to define the term “dramatic plot”, explain the levels of the dramatic plot model, maintain the skills of determining the levels of the dramatic plot from the prescribed drama book (Ngingewakabani) that they have read, write the answers using correct language and spelling, avoid common errors, and share knowledge (LO1). Secondly, the SHAREit application was used as a data-free application that teachers and learners can use to distribute or share learning material. Media Player replaced YouTube and substituted the direct instruction, while SHAREit replaced the traditional distribution of learning materials such as hard copies. The learners followed the steps to share and access the prescribed video, then watched it (LO3 and LO4).

The appropriateness of Media player is demonstrated by the functionality of the following features: forward, pause, and rewind. It aligns with the syllabus and the curriculum since

it provides the flexibility to upload your content, and teachers can decide which educational video to play and how long it should be. Learners can save the video and watch it repeatedly at home or anywhere, at any time, as long as they have a device with them (Ozdamli & Ozdal, 2018). It is video-playing software allowing you to play your video or watch someone else's video. It allows the user to burn CDs, organise their multimedia collection, rip CD tracks to MP3 or other audio formats, and play songs and movies. When listening and watching media from the media player, learners develop planning, judging, and remembering skills (Beheshti et al., 2018), as they get to sit down and watch an educational video of a particular topic. Thereafter, they are assessed on what they have watched and heard in that specific video. Media Player can be used effectively with all the grades from the senior phase to FET. It has parental control features, where a parent or teacher can enable the parental control to select the rating according to the learner's age. This selection can be made to avoid learners watching inappropriate videos. However, it differs from YouTube because the media player does not have space where learners can comment and give their views about a video.

Furthermore, Media Player software met several criteria for Lesson Number 1. The media player used as an e-learning tool met the needs of the lesson at hand; the teacher searched for an educational video on YouTube, downloaded it, and played it using a media player for learners to watch in class. Coupled with the SHAREit app, the media could be shared to other devices in the class, limiting the use of data. After that, learners were able to watch and answer questions related to the video. The media player met the educational standards required, it met the level requirements of the SAMR, and it was appropriate for the learners' age. The software is well designed and engaging; it is easy to use by learners. It is accessible on all necessary platforms, adheres to accessibility guidelines, and accommodates English language learners. Lastly, it is a free software program that is not dependent on Wi-Fi or internet access because it uses wireless tethering to share content, which means the media could be shared to many other devices in class without using data. The SHAREit app supports the lesson plan integration for rural classrooms.

4.4.2 Challenges experienced by IsiNdebele teachers (RQ2)

In response to the challenges experienced by IsiNdebele teachers, several challenges were raised during the implementation of the study. These challenges are summarised by pointing out the main themes that arose from participants and the (researcher's) teacher's self-reflection in the study.

A limited number of devices.

The main challenge that the researcher encountered was a limited number of devices. The school had received 50 tablets in 2018 from the Limpopo Department of Education that were reserved for the science stream only, according to the school ICT champion and the committee. The tablets have not been used by learners since their arrival. When the researcher requested to use the tablets for this study, the ICT champion and the committee called a meeting first before giving the researcher the go-ahead. Therefore, the decision taken from the meeting was that because of the limited number of tablets, they decided to use the devices only for science subjects, and languages would not be allowed access due to timetable clashes. After the issue was brought to the principal's attention, the decision was changed so that all teachers were allowed to use the tablets irrespective of their learning areas.

Rural schools are still faced with challenges that include limited or lack of technology devices because they rely heavily on government grants which are not sufficient and very inconsistent. The free education policy is the cause of rural schools not having funds to purchase school technology devices since they are very expensive (Johnson et al., 2016). Most rural schools rely on spirited efforts from government agencies, corporate organisations, NGOs, and individuals to donate technology devices such as computers and tablets. (Kaumba et al., 2021).

Technology-conducive classroom.

Another challenge observed by the researcher and the participants are the lack of technology supporting resources such as electric sockets to plug in a data projector, tablets' charging cables or other electric appliances, blinds or curtains, and speakers. These tools are needed for a classroom to be conducive for e-learning.

The 20 tablets had to be charged manually, which was very time consuming since the tablets only had four battery chargers. The teacher needed to look after the tablets while they were being charged for protection and also to change each tablet after the battery was fully charged.

To use the tablet, laptop, or data projector during the lesson, the researcher had to go around the school searching for a classroom that had an electric socket to plug in the data projector or any other electric appliance such as a laptop during the lesson.

After an appropriate classroom was found to use a data projector, the visibility on one side of the class was not good. This was confirmed by Participant 4, who wrote, "*the screen of the data projector was not visible from my side or angle"*. The rest of the participants sitting on his side experienced a glare on the screen of the data projector, which the teacher also saw during the lesson's introduction as she was walking between the learners' desks. The glare was caused by the reflection of the sun through windows. This problem was one reason why the teacher decided that the learners should watch the video from their own devices (tablets) instead of through the data projector.

Observer 1 said: "*Watching the video from the data projector was a challenge itself since the sound of the video was not audible to the whole class, since it was coming from the teacher's laptop speakers".* When learners watch the video on their own devices, using the media player software program and earphones or headphones was an easy replacement for YouTube. However, the facilitator could not manage to control learners from rewinding and forwarding the video. According to the lesson plan, they had to watch it twice and answer the questions to test their listening skills, listening comprehension, and phonological awareness skills.

According to the World Bank (2020), rural schools face the challenge of unavailability of technological resources and facilities such as electricity, computers, multimedia projector, printers, scanners, and computer laboratories, which hinders the utilisation of e-learning tools in classrooms. An educational institution must have up-to-date hardware and software resources as a key feature in the implementation of e-learning, but it is not the case in rural schools (Mashile, 2016). Nevertheless, the ability of a school to effectively

integrate e-learning tools in the classroom is impacted by the resources available and committed to the integration of technology. Consequently, the challenges of digital literacy are increasing, and the digital divide continues to expand.

Unreliable network and Wi-Fi connections.

The unavailability of a network and poor internet connectivity hampered the implementation of the study. During the lesson planning of all four lessons the researcher/teacher could connect to the Internet using her laptop and the learners' tablets. Then, during the implementation of Lesson Number 1, connecting all 20 tablets and the teacher's laptop to one source/ Wi-Fi connection resulted in total failure. The 20 tablets and the teacher's laptop could not connect to Wi-Fi at once, so access to the Internet was impossible. Furthermore, the researcher then disconnected all the tablets and only connected the teacher's laptop, yet still, there was a limited network that made the YouTube video blur, and it kept on buffering when played and kept on pausing when downloading. So although there was an internet connection, it was still not sufficient to play a YouTube video.

Dube (2020) indicated that most teachers and learners in rural schools are experiencing problems with internet connection, caused by the unavailability of the network. That makes it difficult for them to access online learning and online learning material provided by the Department of Basic Education as a strategy to combat COVID-19. The participants agreed to the integration of e-learning tools, though it is clear that only offline e-learning tools would work in these deprived schools,

Novelty, anxiety, and lack of computer skills.

For most Grade 11 learners, it was their first experience using technology devices such as tablets in class, apart from a few learners who were transferred from other schools. The school has a policy of "No cell phones" which implies that learners are not allowed to bring any mobile devices to the school. A ban on the use of cell phones in South African schools was called for by the National Association of School Governing Bodies (NASGB) (Mwanza et al., 2018). Therefore, using tablets in class for learning purposes was an exciting experience for the learners which they never anticipated. Participant 20 said: "*If*

we could use tablets every day, in all of our subjects it would be much interesting to learning".

The challenge was that learners focused more on navigating through the devices and forgot to focus on the content. That resulted in not attaining the complete set of skills, attitudes, and knowledge expected by learning outcomes. This was explained by Observer 1:

> *During the step-by-step instructions, learners actively participated even though some experienced challenges but you could see that they are willing to learn. Then, when they were watching the video, they could not concentrate, instead, they will be looking left and right at their friends to see what they are doing. You could see that they cannot wait to receive instructions on what to do on the tablet. The behaviour may be caused by learners not being informed of the purpose of using these devices.* (Observer 1)

Some learners struggled to follow the instructions or use the devices due to not owning a smartphone or any other technology device. Even at home, none of their family members owned smart technology devices. Therefore, it was something new for them to use tablets and to use them in a classroom for educational purposes. Their anxiety was common and caused by a lack of computer skills and being afraid to make mistakes (World Bank, 2020). Observer 1 said:

> *I noticed that most learners at the beginning of the lesson were slow and could not catch up on the teacher's step-by-step instructions; therefore this made the class uncontrollable as learners had to ask their peers to assist, some gave up and others did raise their hands for the teacher to assist.* (Observer 1)

These particular learners focus more on operating the devices instead of focusing on the content. They relied more on looking at what their friends were doing instead of following the teacher's instructions. When given instructions, they prefer to see what their friends are doing first before doing it. Some were afraid to do anything on their devices and requested their friends to help them or do it for them. According to Msiza et al. (2020), learners are more excited at using the tablets for nonacademic materials than for

educational purposes, which helps them cope with anxiety and convince their friends that they can use the tablets. As a result, the learners do not acquire the complete set of skills, attitudes, and knowledge, as outlined in learning outcomes. Participant 1 added: "*Seeing other learners getting lost and asking for help from the teacher made me focus more since I was afraid to fall behind on the instructions."*

Participant 14 also wrote:

> *I thought a cell phone is the only device I needed to be able to focus on my studies and a smartphone will disturb me in my studies until today, where I had to rely upon or look at my friend's screen after each instruction to avoid being a laughing stock.* (Participant 14)

Most of the learners who experienced difficulties are influenced by their access to devices and their prior knowledge and skills towards using devices. This comment is valid because learners from poor communities, in households where devices are limited or non-existing, and who have little or no prior experience with e-learning, are subject to many disadvantages. On the other hand, learners who are motivated and have prior experience in e-learning are the most likely to use the opportunity of e-learning to their advantage (World Bank, 2020).

Inappropriate behaviour.

Changing the culture of teaching and learning, in this case integrating e-learning tools into teaching and learning practices, requires the teacher to develop new and improved techniques for classroom management, learner enrichment, and support to optimally control the learning atmosphere (Hilliard et al., 2020). The learners' behaviour was inappropriate because they were doing things that they knew they were not supposed to do. Since I was busy helping other learners, I could not see or noticed some of the bad behaviour. During the lesson, it was observed that learners were laughing, talking, and pointing at their screens when they were watching the video. The current active discipline strategies, methods for keeping gifted learners busy, and strategies for learners with special educational needs did not work because they were not designed to work in an e-learning classroom. Observer 1 mentioned that:

> *While sitting at the back, I could see other learners taking pictures, browsing through the tablets, and also watching different videos found on the tablets. You could see that their concentration was on the use of the tablets and not on the content. The teacher could not notice this behaviour because they were able to switch between tabs.* (Observer 1)

You could see that gifted learners were bored and wanted something hands-on, and learners with special educational needs would give up quickly when they were given instructions. These challenges were caused by learners not being familiar with the new teaching method that incorporated technology, especially for learners with poor technology skills. Correspondingly, learners with high skills in technology were also bored because they would overtake the teacher's step-by-step instructions and finish before others. That resulted in learners looking for something else to do on the tablets with which they were familiar. In the case of the gifted learners, watching the video once was enough for them; that is why they would fast-forward and rewind the video, and look for other things they could do with the tablets because they felt unchallenged. Msiza et al. (2020) highlighted that it was difficult to monitor learners downloading or viewing non-academic materials instead of utilising the devices for improving their learning and obtaining additional information for research projects.

Inadequate multimedia.

The chosen video was insufficient for introducing the concept. It lacked an extended explanation of the concept or topic, examples, and relating the topic to learners' daily lives**.** Secondly, the way the lesson was planned in integrating the video to explain the concept was not optimal in keeping the learners motivated, engaged, and concentrated over time. When it comes to explanations, clarifications, and interpretations, e-learning may not be as effective as traditional methods as the learning process is much easier or preferably delivered by the instructor (Arkorful & Abaidoo, 2015).

"*The learners needed a further explanation on the particular topic. The video lacked illustrations and everyday life examples of the topic at hand*" claimed Observer 1.

This shortcoming contributed to most learners losing marks in the activity after watching the video. The learners lost marks in higher-order questions that tested their understanding based on real-life events. The average score of the test was 7.6 out of the total of 10 marks. Participant 7 said: "*Watch the video only twice and answering the questions, was not enough to apply the information gathered from the video to answer the questions*."

Studies showed that the integration of videos promotes improvements in learners' learning performance (Akcayir & Akcayir, 2018; Arkorful & Abaidoo, 2015). This multimedia has the advantage of improving learners' positive attitudes and enhanced learning motivation, which is encouraging. However, certain potential challenges need to be considered to implement the integrated video effectively in the classroom. Firstly, the teacher should check the quality of the instructional video; the instructional video should not be too long and keep learners interested, and secondly, it should be integrated to provide interaction among learners (Akcayir & Akcayir, 2018). The selected video was integrated to meet all the criteria mentioned above, but it lacked some content to understand the topic better.

Lacking the ability to express oneself.

The learners struggled to answer the written questionnaire (appendix D) even after each question was adequately explained to them. They struggled with reading for meaning and understanding what the question expected from them, and reflecting in writing what they experienced during the lesson. Instead, they preferred sharing their experiences in a class discussion using their home language, IsiNdebele.

Even so, Arkorful and Abaidoo (2015) suggested e-learning may negatively impact learners' communication skills. A learner might possess excellent academic knowledge but lack the skills to convey that knowledge to others effectively.

Lesson Number 1 had many challenges, which was a learning curve that helped the researcher adapt the following lessons for better teaching and learning of IsiNdebele in a rural secondary school. Furthermore, the selected e-learning tools were appropriate on the substitution level of the SAMR Model. They helped achieve all expected learning

outcomes, except LO2, learning how to access learning material from the Internet using a link/URL. Nonetheless, the media player and the SHAREit applications can be used to teach IsiNdebele in a rural secondary school context. However, the encountered challenges need to be addressed before they can be used optimally.

4.5 Augmentation

The augmentation level of the SAMR model is beyond the substitution level, which means the e-learning tool will be used to substitute the learning activities and provide a functional improvement on learning activities that could have been achieved with traditional learning tools (Puentedura, 2006). The following discussion describes the expected learning outcomes, the processes of implementing the selected e-learning tools, and the selected e-learning tools. Secondly, it describes the appropriateness of the selected e-learning tool that was used to replace and add functional improvement to teaching activities traditionally done without using the e-learning tool. Thirdly, it discusses challenges experienced by rural IsiNdebele teachers when implementing the selected e-learning tool.

In Lesson Number 2, the GoConqr application was planned to substitute the use of pen and paper to design a Mind map in a soft copy format. It also added functional improvement where learners used this e-learning tool to interact with one another in group work, plus saving, accessing, sharing, and downloading the Mind maps using links/URL addresses at anytime and anywhere, with any smart device.

This lesson's learning outcomes (LO) were firstly to describe the characteristics of a drama setting based on the prescribed book (LO1). Secondly, co-create learning materials (such as Mind maps, quizzes, flashcards, and notes) that summarise all the aspects and relationships between the elements, topics, and subtopics of a drama (LO2). Thirdly, share knowledge and ideas effectively in a team and access them anywhere and anytime (LO3). Learners should develop the principle of working effectively with others as a team to be able to share skills, knowledge, and ideas. Therefore the lesson was planned to be conducted in the order explained further in this paragraph. The topic for Lesson Number 2 was Drama Setting (Isizinda Somdlalo), described by the relevant CAPs document. In this lesson, GoConqr was selected as an e-learning tool to replace

traditional learning activities and enhance learners' experience (LO4). The theme to contextualise the lesson or link the lesson to learners' real world was "The Spider Web", simply to show the connection between the topic, subtopics, ideas, and examples found in the Mind map diagram (LO5). By co-creating a summary Mind map on GoConqr about a drama setting, learners can add, share, and access the Mind map anytime through an internet connection (LO6).

To awaken learners' prior knowledge, the teacher presented a link/URL (https://www.goconqr.com/) to learners on a data projector. The link would have to lead the class straight to a blank sheet of the GoConqr website. Learners would have been expected to help each other in a class discussion making a Mind map together with the teacher of "what is a drama setting", which they have learned in the previous year. Learners would put up their hands to answer; if it was correct, the teacher added it to the Mind map, showing the learners how to use Go Congr (see example in Figure 4.3).

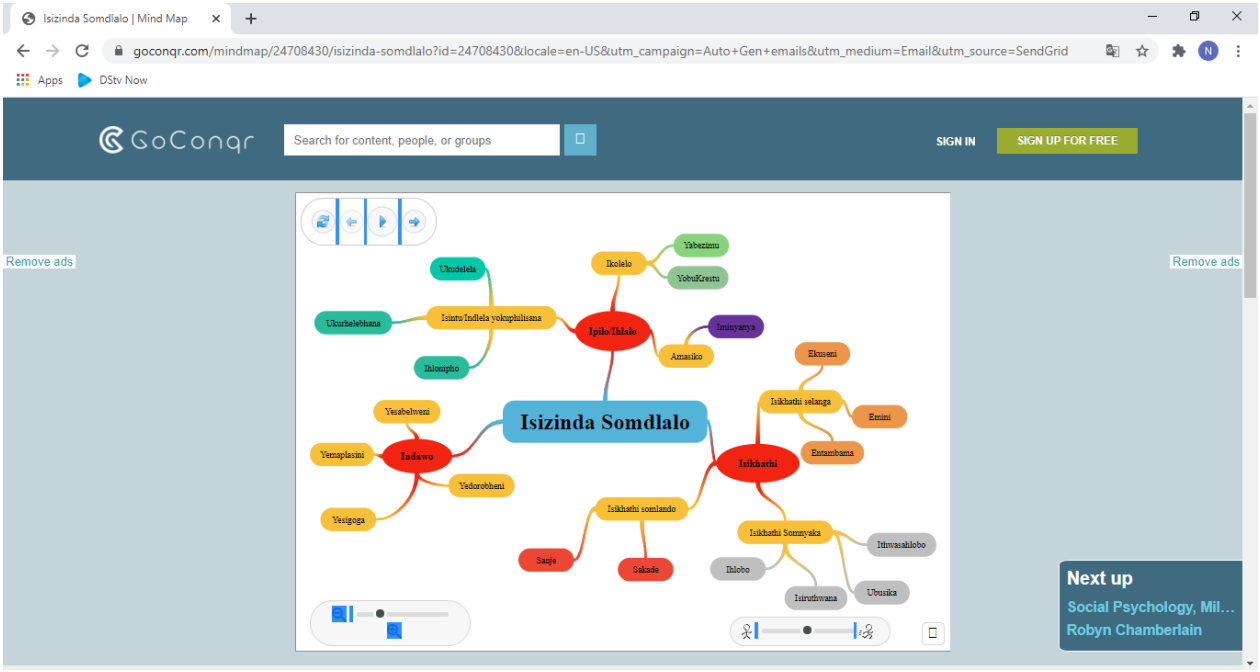
To develop new knowledge, the teacher would have explained scaffolding from what learners knew about the topic to new information using a drama book that learners read in the previous year as an example. After that, the teacher would show learners how to create their Mind maps using GoConqr. In pairs or groups, learners would design their Mind maps, with each pair having different subtopics/elements of a drama setting. In this activity, learners are expected to use the current prescribed drama book to show events that describe the elements of the drama setting given. Each pair or group was required to share their work with the rest of the class and present their understanding and findings on the subtopic given, consolidating the lesson.

GoConqr as Augmentation.

GoConqr is a web-app, where teachers and learners can create, save, and share Mind maps, quizzes, flashcards, and notes. GoConqr allows the user to create a login account, upload pictures, audios, and videos to create Mind maps, quizzes, flashcards, and notes. It is colourful and playful.

Figure 4.3

A Mind map from the GoConqr website



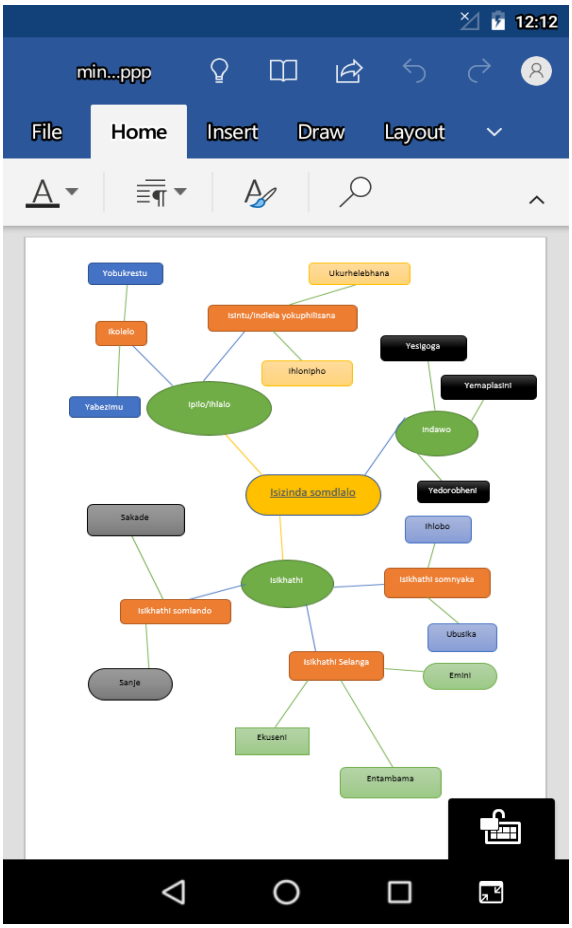
GoConqr was chosen to augment traditional learning tools. The lesson was planned for learners to sign in to the site and design their Mind map on the particular topic (substitution) given to them. After that, they would add, edit and share their work online (functional improvement). Due to devices not connecting to the Internet at once, the teacher decided to use Microsoft Word to replace GoConqr since it is free and already installed on the learners' tablets. In Microsoft Word, illustrations such as shapes and SmartArt can also be used to create Mind maps, show relations and links (see example in Figure 4.4). This is similarly done by the GoConqr app, as shown in Figure 4.3.

Microsoft Word as Augmentation.

Microsoft Word is a graphical word processing program developed by Microsoft and forms part of the Office Suite, allowing users to type, save, share, print, manipulate and format a text-based document.

Figure 4.4

A Mind map from Microsoft Word app



After the integration of Microsoft Word, the proceeding lesson slightly changed. A teacher opened a new Microsoft Word document on the data projector to awaken a learners' prior knowledge. Learners had an opportunity to interact with each other in a class discussion to create a Mind map with the teacher on "what is a drama setting", which they had learned in the previous year. Learners put up their hands to answer and if it was correct it would be added by the teacher to the Mind map, showing the learners how to use the shapes and SmartArt illustrations found in Microsoft Word.

After that, the teacher explained, building on what learners knew about the topic to new information using the prescribed drama book that learners read. The teacher then showed learners how to create the Mind maps again while giving them instructions for a class

activity. In groups of four members, learners designed their Mind maps, with each pair having different subtopics of a drama setting (substitution).

As part of the conclusion to the lesson, groups had to share their work with the rest of the class and present their understanding and findings on the subtopic given (functional improvement). However, this was not possible, as the learners took too much time learning how to use Microsoft Word; thus, the Mind maps took longer than anticipated to complete. Moreover, the learners could not share their work because they were using Microsoft Word instead of GoConqr.

4.5.1 Appropriateness of e-learning tools (RQ1)

The study used “The great app checklist” (Appendix A) and the “Evaluation tool for instructional function” (Appendix B) to determine the e-learning tool that could be used to replace and add functional improvements to other traditional teaching and learning activities in an IsiNdebele rural classroom. Although GoConqr was seen as appropriate for the lesson, it was not used because of the unreliable network and Wi-Fi connection challenges. The lesson was adapted to use Microsoft Word as a newly selected e-learning tool for this lesson. The newly selected e-learning tool lacked the appropriate features for augmentation; therefore, it was only appropriate for substitution.

After the lesson analysis, it was found that few of the expected lesson outcomes were achieved. Since learners could not present their Mind maps, it was not easy to evaluate whether they grasped the knowledge, skills, and values set to be achieved. The learners had difficulties typing inside shapes, applying colours, enlarging and decreasing shapes, and creating arrowed links because Microsoft Word was a new program to them. From the submitted learners’ Mind maps, it was gathered that learners were able to define and identify the three elements of a drama setting from the prescribed book (Ngingewakabani); and help each other learn, co-operate and share knowledge (LO1 and LO2). Furthermore, learners could design Mind maps that showed the relationship between the elements and events from the prescribed drama book. In this case, Microsoft Word replaced GoConqr and still had the same function to substitute the use of pen and paper to draw Mind map as a learning activity. However, learners could not share their Mind maps to be edited or added to with each other through Microsoft Word; they could

not save it to access it at anytime, anywhere or with any smart device (LO3), which makes the tool to be inappropriate for augmentation, but appropriate for substitution.

Microsoft Word.

Microsoft Word met all the needs for the lesson at hand by meeting the educational standards related to the curriculum, fulfilling the requirements of the augmentation level of the SAMR model, and being appropriate for learners' age. The way the e-learning tool was implemented provided an authentic experience, facilitated collaboration, and encouraged higher-order thinking, and in addition, it is engaging to use. Microsoft Word has privacy settings, and a privacy policy, where you can set a password for the document and only the person with a password can open it. It is free to use, and the size of the e-learning tool (Microsoft Word) is appropriate to be used from different devices (such as laptops, smartphones, and tablets). Although learners struggled in the beginning, it was an easy-to-use e-learning tool.

The offline Microsoft Word version lacks the ability to save the documents to be accessed from any device at any time. If you save your documents on a particular device, you will have to use that same device to access them. On the other hand, online Microsoft Word allows the user to save the documents to the Internet and access them anytime, anywhere, from any device, which is impossible in rural areas. That makes the tool inappropriate for the augmentation level of the SAMR model as no functional improvement was added but appropriate for substitution. Nevertheless, Microsoft Word integration promoted a range of values amongst learners. Further, Microsoft Word was used to draw a mind map, provided an authentic experience, facilitated collaboration, and encouraged higher-order thinking skills; it is engaging to use and increase learner's computer literacy skills (Miranti & Wilujeng, 2018).

4.5.2 Challenges experienced by IsiNdebele teachers (RQ2)

In response to the above-mentioned topic, the participants raised several challenges experienced during the implementation of the study. These challenges are summarised by pointing out the main themes that arose from participants experience and the teacher's self-reflection in the study.

Eye strain when looking at the tablet screen for a long time.

Almost all learners complained about eye strain from this lesson. This was because learners would keep the tablet close to their eyes or faces when reading or looking for any icon in the tablet, especially in the Microsoft Word ribbon. Participant 6 said: *"This activity was challenging it even got my eyes tired from staring at the tablet*."

Participant 18 added: "*Looking at the tablet screen for a long time got my eyes sore and watery, which may be the reason we could not finish in my group*".

Also, some of the devices would show glare or reflection because the classroom is not designed to accommodate these devices, which contributed to eye strain. Even though the classroom was changed and the time was changed to the afternoon, it was still impossible to avoid sun reflection through the windows.

Gon and Rawekar (2017) mentioned that eye strain was one of the technical disadvantages observed, and a high percentage of learners agreed during their study. Learners established that the eye strain might be caused by continuous staring towards the device screen with small font size, high brightness, and wearing of spectacles, which lead to ocular muscle fatigue (Sheppard & Wolffsohn, 2018).

Limited time.

All learners chose to be in groups instead of pairs. Each group was given only two devices/tablets, and they were allowed to submit only one Mind map to be viewed by the whole class. This arrangement was made to use one tablet for Mind maps only and the other one for research or other activities relating to designing the Mind map. At first, it was too difficult for learners to use shapes and SmartArt illustrations because it was their first time using Microsoft Word. Even those who had used Microsoft Word before had challenges, as Participant 17 mentioned: "*I have only used Microsoft Word for typing only, without inserting anything*."

Observer 2 discussed: "*The lesson was well planned, though the time was insufficient. Towards the end of the lesson, the learners finally were able to do what was expected of them, though some could not finish in the given time*."

A limited amount of time is often a problem for learners with less experience in e-learning. When learners are unfamiliar with e-learning tools, e-learning is more time-consuming and requires additional support (Jokiaho et al., 2018). So all the learners needed more time to play around with those shapes and see what they could do or how the shapes and SmartArt worked. At the end of the lesson, the learners could submit their Mind maps in groups, but they could not share them with the rest of the class because of the limited time and the selected e-learning tool, which could not share multimedia.

Lack or limited computer skills of some rural learners.

The learners seemed to have a lot of content to present in their Mind maps, but they could not include it in their work because they lost a lot of time in trying to see how the shapes could be enlarged, decreased or moved, text could be inserted or colours could be changed. Observer 2 claimed: *"Some learners still prefer to use pen and paper. They were unable to easily use the tablets to provide their answers in a Mind map."*

Participant 16 complained that: "*If the same assignment was given without the use of tablets, I would have aced it because I had all the information from previous grades, just that drawing the Mind map on the tablets was challenging."*

The above comments ascertain that integrating e-learning tools in the classroom will not be effective unless learners have already acquired good technical skills. Furthermore, e-learning tool integration encourages learner attentiveness and participation when learners have specific computer skills, which allow them to archive tasks and work easily and securely (Hashlamoun & Daouk, 2019).

Loss of interest or motivation.

At the beginning of the lesson, the learners were all actively participating. Still, towards the end of the project, you would find that only two or three members in each group were still enthusiastic and working together. The rest were either talking about something else, taking pictures with the other tablet or simply no longer cooperating. In this case, the researcher also found that almost 50% of each group's members lost interest when they found challenges in the given activity. Consequently, they ended up taking pictures with the tablet, while the other members were left to continue with the work. In their study, Loh

et al. (2016) found that lack of proper communication and technological skills were the most critical problems that caused boredom and demotivation, which led to a negative attitude towards e-learning tools.

Poor teamwork.

Another challenge experienced by a facilitator is that learners would fight to hold the tablet since each group was given two tablets, and there were four members in each group. Thus**,** learners failed to communicate and share the work amongst themselves, which made other members withdraw from the group. Also, it led to learners using the other tablet to try and do their work in pairs or individually separated from the group.

The Microsoft Word e-learning tool was not appropriate for integration under the augmentation level of the SAMR model. Microsoft Word was able to substitute the use of pen and paper to draw a Mind map as a learning activity (LO4). However, learners could not share their Mind maps through Microsoft Word; they could not save them to access them at anytime, anywhere with any smart device (LO3 and LO6). Moreover, the challenges mentioned above, such as limited time, an unreliable network or unstable Wi-Fi connections and lack of or limited computer skills of some rural learners also contributed to a failure to achieve all the learning outcomes. This failure makes the tool inappropriate for augmentation but appropriate for substitution.

4.6 Modification

The modification level of the SAMR Model uses e-learning tools to transform the learning activities significantly. The e-learning tools are integrated to encourage learners to demonstrate understanding and develop problem-solving skills (Puentedura, 2013). The following discussion describes the processes of implementation of the selected e-learning tools. Secondly, it describes the appropriateness of the selected e-learning tools when used to modify and significantly redesign a lesson or learning activity. It then discusses challenges experienced by rural IsiNdebele teachers when implementing the selected e-learning tool.

In Lesson Number 3, Microsoft PowerPoint and Microsoft Excel were chosen as the e-learning tools and modified to significantly redesign the normal traditional tasks, which

is an assessment or a test in this lesson. Microsoft PowerPoint in this lesson was used in the introduction phase to capture attention, awaken prior knowledge and prepare or train learners for a summative assessment which would be done in the development phase of the lesson using the Microsoft Excel e-learning tool. Even though Microsoft PowerPoint and Microsoft Excel were not designed for assessments, in this lesson, they were modified and redesigned to create multiple-choice tests, which were self-marked. Microsoft PowerPoint was used to redesign the introduction part of the lesson so that the teacher usually asks learners questions about the topic to capture attention and awaken prior knowledge, which is called the Socratic Method (Islam et al., 2015). After that, the teacher will start teaching from what learners already know, developing new knowledge or concepts from that departure point. In this lesson, Microsoft PowerPoint presentations were designed with interactive slides where the learner has options to choose from, and if the learner selects a wrong answer, it takes a learner to a summary of the notes. So a learner can catch up on knowledge and go back to the test to choose the right answer that will take the learner to the next question until they finish the test. Microsoft Excel was used to create a multiple-choice test that can mark itself and then provide immediate feedback to the user, which is impossible with a pen and paper (Chhabra, 2012). Microsoft Excel in this particular lesson is modified to promote the learners' thinking skills, intellectual ability and promote problem-solving skills. Multiple-choice tests in Microsoft Excel can be taken repeatedly if the teacher allows it, and they are automatically marked each time.

The learning outcomes (LO) of Lesson Number 3, were to define the theme, genre, and types of characters found in the prescribed drama book (LO1). The second LO was to analyse the drama plot, setting, theme, genre, and types of characters found in the prescribed drama book critically (LO2). The topic for Lesson Number 3 was “drama short questions” (Imibuzo elula yemdlalo), described by the relevant CAPs document. Learners were given two tests from Microsoft PowerPoint and Microsoft Excel to assess their knowledge and skills gathered during the past two lessons (LO3). These e-learning tools will modify the lesson by self-marking and giving correct feedback on both assessments. The short questions given to learners were multiple-choice questions based on the

prescribed drama book, drama plot (Isakhiwo somdlalo), and drama setting (Isizinda Somdlalo). The theme of this lesson was a “Train race” to contextualise the lesson. The train race in this lesson is compared to how fast learners recalled the knowledge and skills taught in the past lessons (LO4). Learners were also taught how to create, share and access assessments and games, which would assist them and their peers revise or prepare for the examination. Learners were taught how to create these games and assessments so they could create them in their next lesson and expose themselves to educational games and electronic assessments that they could share (LO5).

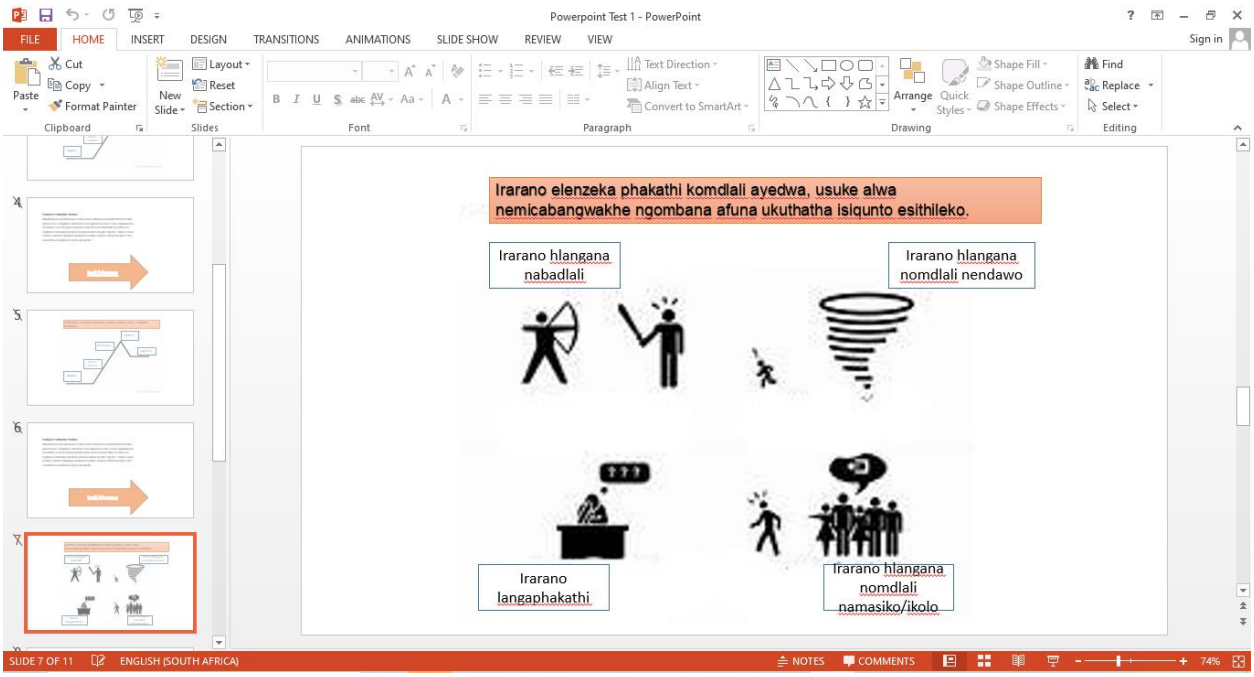
Microsoft PowerPoint (Figure 4.5) and Microsoft Excel (Figure 4.6) documents were shared and saved on the learners’ tablets. For the lesson introduction, learners were given instructions to follow to find Test 1 and complete it. Learners were required to do the first test, presented in a PowerPoint presentation, guided by the teacher. The test contained five multiple-choice questions, which learners answered. Test 1 was designed to train the learner, and if the learner correctly answered all the questions, they would be ready for Test 2. No marks would be allocated for Test 1.

Microsoft PowerPoint as modification.

Microsoft PowerPoint is part of the Microsoft Office suite. It allows the user to create information-rich multimedia slides, presented as a slide show presentation. Microsoft PowerPoint is normally used for presentations, digital portfolios, animations, and photo slide shows. Links to slides or other digital media can be inserted, making it possible to choose what information the user will see (Pezzino, 2018).

Figure 4.5

Microsoft PowerPoint Presentation



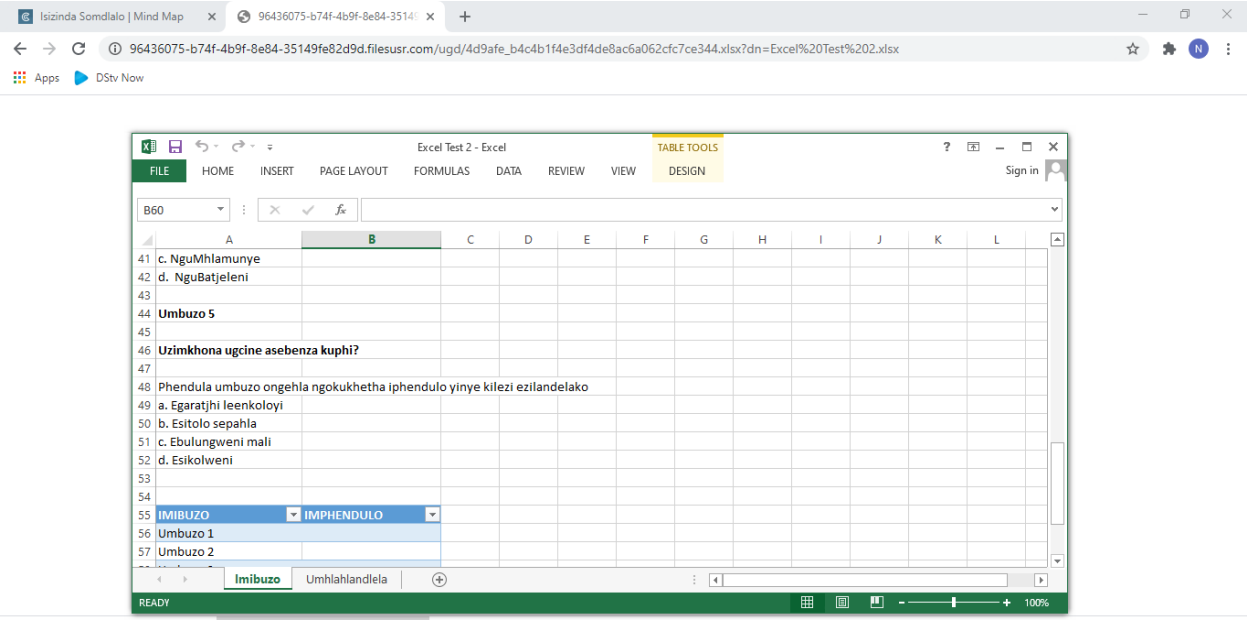
Learners followed the instructions and managed to answer the questions of the test. When they got an answer wrong, they were directed to the content to revise and repeat the question until they responded to the question correctly. They then continued to the next question, and all the learners managed to finish the activity and move to the next test.

Microsoft Excel as modification.

Microsoft Excel is a spreadsheet program that you can use to make sense of your data using its features and formulas. It is used to store, organise, and track numerical data. It can do sums, averages, totals, and other calculations. It is a spreadsheet with columns and rows making a cell at each column and a row intersection. It mostly contains numbers, graphs, and characters. Using formulas such as the IF statement makes it possible to compare learner responses with a model answer and provide feedback based on the comparison. If it matches, it is correct, and if it does not match, it is not correct.

Figure 4.6

Microsoft Excel



The learners did Test 2 in Microsoft Excel as instructed, individually, and without the teacher's help unless there were any technical issues. The learners followed the instructions given to them to find Test 2, complete it, and raise their hands for the teacher to come and record the marks.

Test 2 required learners to answer all five questions and raise their hands to show they had finished. The teacher would then come and collect the marks from the marking worksheet of each learner and give them a word search and crossword puzzle printouts to continue with while others were also finishing up. The word search and the crossword puzzle games were extra work, prepared for learners who finished early to keep them busy (especially for the gifted and technology savvy learners). For those learners who finished late, it was a homework activity, which counted as part of the summative assessment, and they had to submit it the following day. To wrap up, the teacher shared a step-by-step tutorial printout with learners on creating an assessment using PowerPoint and Excel that they would use to create the next lesson of the study.

4.6.1 Appropriateness of e-learning tools (RQ1)

The study used “The great app checklist” (Appendix A) and the “Evaluation tool for instructional function” (Appendix B) to determine the e-learning tool that could be used to modify and redesign teaching and learning activities in an IsiNdebele rural classroom. A list of e-learning tools was found that could be used to redesign the traditional teaching and learning activities. Microsoft Excel and Microsoft PowerPoint were selected as the e-learning tool for Lesson Number 3. Moreover, it was tested and proved to be appropriate for the lesson. This appropriateness was demonstrated by the successful implementation of the lesson, learners completing the test, and all the expected learning outcomes being reached or achieved.

After the lesson analysis had been presented, it was established that all the lesson outcomes were achieved. Learners obtained great marks from the Microsoft Excel test for Test 2, with an average of 7.6 out of the total of 10 marks (LO3 and LO4). This meant that learners could define and critically analyse the theme, genre, and types of characters found in the prescribed drama book (LO1 and LO2). They could create assessments and games using e-learning tools to demonstrate knowledge about the drama plot, setting, theme, genre, and types of characters found in prescribed drama book. Learners could also create their assessments and multimedia (such as canvas or videos) using the e-learning tools that were integrated into this lesson and in the previous two lessons or develop their e-learning tools (LO5). The main learning outcome of the lesson was achieved, so the lesson was well implemented, and the tool selected was well integrated. This outcome answers the first research question, Microsoft Excel is appropriate for integration in the modification level of SAMR.

The e-learning tool met the purpose of the lesson at hand. It suited the educational standard, was related to the curriculum and was on the appropriate level of the SAMR framework for the learners. The e-learning tool was used in the lesson to provide appropriate and immediate feedback, facilitate higher-order thinking skills, provide an authentic experience, and engage users. Reports of learners' usage and the test questions can be exported and shared on social media. The spreadsheet can be uploaded to different social media for other learners to take the same test. Learners can

also create their tests or activities to assess each other in class or at home. Since Microsoft Excel has an appropriate size and is available on relevant devices, free, and easy to use, it was appropriate. Lastly, it also provides support for lesson plan integration.

4.6.2 Challenges experienced by IsiNdebele teachers (RQ2)

IsiNdebele teachers faced several challenges during the implementation of the study. These challenges are summarised by pointing out the main themes that arose from participants' experiences and the teacher's self-reflection in the study.

Time management.

Time management was an essential part of the lesson. The teacher should have planned the lesson by looking at her learners' diverse abilities. That would have helped to divide time according to each activity, looking at the learners' needs.

Observer 3 said:

> *It was difficult for the teacher to move with learners from one activity to another. Since other learners were fast moving from one activity to another and others are slow. Most learners spent a lot of time in Test 1. Test 1 required most time since a learner was not able to finish the test without getting all the answers correctly. Learners spent a lot of time moving back and forward, back to notes and read, then forward to the next question after getting the correct answer. Few learners got the hang of test quickly than expected, and from there they moved from the first test to the second one in less time planned.* (Observer 3)

She added: "*It seemed to be difficult for the teacher to facilitate different activities (Test 1 and Test 2) at once while recording marks for test 2. The teacher could have organized a maximum time for each test, to move together with learners to each activity*."

Some learners might need a long period to learn how to use the application. One also has to consider other factors such as computer malfunction, making the learning process time-consuming and tedious (Srivastava, 2018).

Insufficient time for lesson planning.

There is insufficient time for rural teachers to plan for IsiNdebele lessons that integrate e-learning tools. Firstly, searching for e-learning tools that can be used in the IsiNdebele language is both expensive and time-consuming. Most e-learning tools are designed in English for use in English, which requires an IsiNdebele teacher to go through each one (some are free and some require data to function), searching for one that can be adapted to the IsiNdebele language. After finding one that can be modified, the teacher will have to create all the learning activities, including assessments, from scratch in the IsiNdebele language. In addition, rural teachers should consider the availability of technology resources when planning lessons so that the plans can be effectively implemented in class.

Learner's reflection is reduced.

It is difficult to evaluate whether the learners have reached the expected goals or not. A learner can guess and still get the correct answers or high scores. Others tend to answer without thinking or using the knowledge they already have. In addition, using e-learning tools for assessments creates a challenge for controlling or regulating activities such as cheating (Arkorful & Abaidoo, 2015). Observer 3,noticed that:

> *Other learners will get pressured by those learners who finish fast and raised their hands. So they will just guess the answers to finish fast, and if it is incorrect, they go back and guess another one until they find the right one. That means the teacher cannot conclude on whether the learners have acquired the expected learning outcomes.* (Observer 3)

Msiza et al. (2020), in their study, revealed that some of the learners from disadvantaged families were on their first encounter with a tablet in class, which affected their ability to use them and listening in class or concentrating becomes difficult.

Stressful time amongst learners.

Learners are afraid of losing the test or getting low marks. That causes them to feel pressurised in ensuring the given answers are correct. Participant 1 wrote:

> *In the case of Test 1, I felt it was hard to catch up if you have given the incorrect answer and it takes you to the notes, which requires time to read them, while other learners are finishing up.* (Participant 1)

Language teachers need some specific in-service training in general psychology, including language anxiety, to deal with stress and anxiety in their classes (Hashemi, 2011).

According to Msiza et al. (2020), learners are more excited about using the tablets for nonacademic materials than for educational purposes. That's the reason they become afraid of taking the test because they know they do not possess enough knowledge.

The level of difficulty of questions.

The questions in Test 2 only contained literal questions (low order type of question). Observer 3 claimed: *"Test 2 disadvantaged other learners since it contained only literal questions. A test must be set to contain all three types of questions: literal, inferential, and evaluation questions."*

Limited practise tests,

Learners need to take a few practise tests before the actual one in each of the tools to familiarise themselves with the e-learning tools before taking actual tests. The learners learned new skills on using the e-learning tools during the tests, which have delayed the progress of other learners and have also contributed to lower marks achieved. Observer 3, said: "*It was noticeable that the learners were supposed to take dummy tests before writing the actual assessments*."

Learners accidentally close/minimise the assessment.

Most learners were distracted by different and colourful icons that appeared on the screen during Test 2. Learners would mistakenly click on any icon on the desktop ribbon, minimise the test, and some even closed the test. When they raised their hands and waited for the teacher to help them, time was wasted, and other learners' concentration was disturbed. Participant 13 wrote: "*I had a challenge with test 2, I would be side tracked*

by the icons in the ribbon and end up clicking on them. I ended up losing the test and raising my hand for help."

Participant 5 added that: *"I think test 2, was supposed to be designed like test 1 and have nothing on the screen except for the test*".

Participant 8 mentioned: *"I freak out, and thought that the system has kicked me out when I did not know what I pressed and could not see the test anymore*"

No password set or secure settings.

Although it is possible to set passwords, none was set for this test. The two e-learning tools' privacy settings were not set, which means it was easy to tamper with any information in the test. Anyone could access the test and see what was written. Observer 3 said: *"Learners would repeat the test to get better results. As smart as learners are, they noticed that when you close the test and start it again it erases the answers and the previous mark. So learners would pretend that they closed the test mistakenly and start it again to get better a mark*".

No constructive feedback.

The Microsoft Excel tool (Test 2) did not generate any constructive feedback on the assessment. The feedback was a one-word item, as in which answer was correct and which ones were incorrect. It did not generate a full report on the learner's progress for future references. This omission might be caused by poor lesson planning and lack of attention to constructive feedback from the teacher's side. However, Microsoft Excel can be manipulated to design a test that offers learners constructive feedback.

For most of the learners, Microsoft PowerPoint and Excel were introduced for the very first time. However, they turned out to be an appropriate tool, as these e-learning tools do not require the Internet. The selected e-learning tools had more advantages to learning, as they provided self-marking, immediate feedback, and learners could redo the test to fix their mistakes. This option is not possible in a paper-based lesson. While there were a few technical challenges in this lesson, most of the challenges were knowledge construction challenges, as listed above. Thus, the selected e-learning tools were

appropriate for the lesson since all the expected learning outcomes were obtained at the end of the lesson.

4.7 Redefinition

Redefinition is defined as learning activities developed by e-learning tools that could not have been done without the use of technological tools, for example, creating a blog, sharing it on the Internet, and including video and audio (Romrell et al., 2016). The following discussion describes the implementation processes of the selected e-learning tool used to transform the lesson or learning activity. Secondly, it describes the appropriateness of the selected e-learning tool to enable learning and teaching activities that are impossible without using e-learning tools. The challenges experienced by rural IsiNdebele teachers when implementing the selected -learning tool are then discussed.

In Lesson Number 4, it was planned that a Facebook Page would be created to enable class activities that were previously impossible in the classroom. These activities are made possible with the use of e-learning tools. A Facebook page was selected for learners to upload and share their work with the whole class and create a constructive discussion to give each learner feedback on their work. The Facebook page can do all the tasks mentioned above in a short time and allows the classroom discussion to continue even after class. In addition, the Facebook page also provides storage for this lesson. On this Facebook page, learners can upload different multimedia and access it anytime, anywhere, and with any smart device.

The learning outcome (LO) of Lesson Number 4 was to analyse the prescribed book in terms of characters, point of view, theme, background, dramatic structure, tone, and ending (LO1). In addition, a multimedia presentation summarising any topic of their subject (LO2) had to be created and shared with the class. Learners should be able to create multimedia, where they summarise any topic they have learned before, to access it in the future for revision or to prepare for the examination. The multimedia can be kept safe online, in this case on Facebook and will be accessible anytime, anywhere, and with any smart device. In this lesson, learners also get to see how other learners, their peers,

understand the same topic, which can improve their knowledge and help them use different multimedia to acquire knowledge and revise for examinations.

The theme of this lesson was a "Revision show" simply because learners uploaded different multimedia of different topics that they have learned about before on their Facebook page (see Figure 4.7). This approach means any group member can access and comment on the page, see all the multimedia posts, and learn more about different topics anytime and anywhere. The topic of the lesson was “The review” (Ukubuyekeza Umdlalo), as described by the relevant CAPs document (LO3).

In the previous lesson, learners were given a task to prepare multimedia content at home individually or in groups of less than four members. This activity was part of Lesson Number 4. The assignment was given to learners as a hard copy of instructions and rubrics. The learners had to create or design their canvas (social media graphics, presentations, posters, and other visual content), video, or a game/assessment as part of a revision of what they learned in the past three lessons. There was a list of topics from what we have done in the past three lessons. Learners were expected to choose one topic and create an interesting revision canvas, video, or a game/assessment that they thought would be valuable for their peers to study. The learners were supposed to submit their work a day before the following lesson by uploading/ posting it on a Facebook page designed as a platform that the learners could access anytime and anywhere when studying for examinations.

The lesson was planned to proceed in the fashion described further in this paragraph. The teacher would review the assignment given to the learners in the previous lesson. She would explain how marks would be allocated according to the rubric. After that, learners would be given a chance to prepare their presentations by accessing the Facebook page where all the assignments have been uploaded. The learners would also be informed to ask/comment/ discuss/ share information on the Facebook page instead of raising a hand during a presentation.

The learners would come to the front of the class individually or in group’s to present the prepared work, a video, canvas, or a game/assessment. At the start of the presentation,

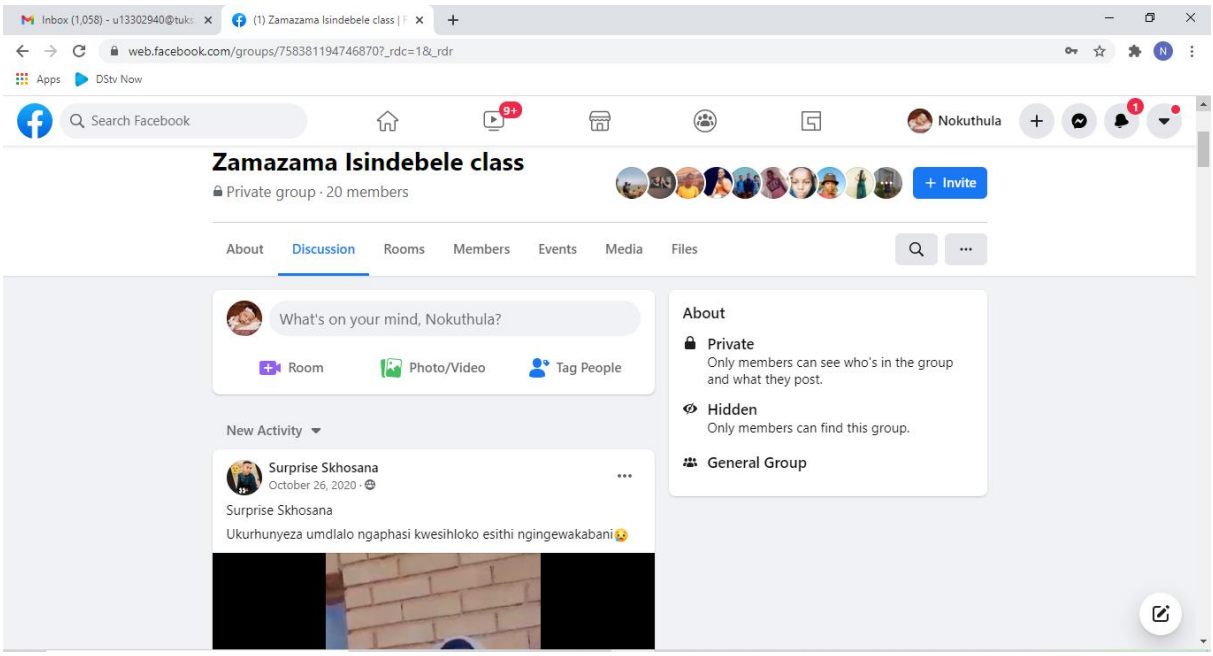
the individual or group would provide the audience with the title of their work, so all the learners could look at that particular work. If a learner or group does a video, they must ensure that everything is included in that video following the rubric. If the learner chooses a canvas, they will be given a maximum of three minutes to explain the visuals shown in the canvas. In the case of a game or assessment, a learner will present their game or assessment questions to the other learners to evaluate. This process shouldn't take longer than five minutes. To wrap up, a teacher will give learners a chance to read a few of the positive or negative comments aloud and ask questions.

Facebook Page as Redefinition

Facebook is an online social media and social networking service website (Prescott et al., 2015). Pages are public profiles explicitly made for brands, businesses, charities, causes, celebrities, and other organisations (Bailey et al., 2017). Facebook pages are used to post status updates, events, links, videos, and photos. The user can also upload documents, pictures, games, videos, and audio.

Figure 4.7

Facebook page website



The uploaded information appears on the Facebook page and also on the fans' news feeds. It offers the user a huge variety to work with, such as news feeds, fans, likes and reactions, comments, notifications, notes, Facebook questions, photos, videos (live streaming and controversial use), and security settings (Department of Education [DoE], 2003).

Unfortunately, the lesson did not go as planned; the learners did not have the Internet data to upload their assignments on the Facebook page using their smartphones. Other learners were not able to do the assignment, due to not having smart devices. The lesson simply changed; learners were taken to the fields, then given tablets to do the assignment. The learners scattered around the field in groups, pairs, and individually. Those who did not have smart devices had their assignments sketched on A3 charts, and others used the back of a calendar. These activities made things easy for them to recreate the work on a tablet.

Most learners chose video and canvas multimedia because of the lack of resources, devices and computer skills. It was easy for them to record a video because you only require a camera which most smartphones have, and a smartphone was mostly available to them. The canvas was also easy to create since they had just done it using the same devices in class. Those learners who could not do the assignments at home were given 30 minutes to do their multimedia using the school tablets. The learners were informed that they could come to an uploading station as soon as they were done. Where only two tablets were connected to Wi-Fi, they could use “SHAREit” to move the media to the tablet connected to the Wi-Fi and upload it themselves using one of the group members’ Facebook accounts invited to join the Facebook page. In the remaining time, the learners moved back to class, and the teacher connected a laptop to a data projector.

The learners would come to the front of the class individually or in group’s to present the prepared work, a video, canvas, or a game/assessment. At the start of the presentation, the individual or group would provide the audience with the title of their work, so all the learners could look at that particular work. If a learner or group does a video, they must ensure that everything is included in that video following the rubric. If the learner chooses a canvas, they will be given a maximum of three minutes to explain the visuals shown in the canvas. In the case of a game or assessment, a learner will present their game or assessment questions to the other learners to play the game or answer the assessment. This process should not take longer than five minutes. To wrap up, a teacher will give learners a chance to read a few of the positive or negative comments and ask questions. Thereafter, learners were told to continue with the discussion on the Facebook page at any time after class.

4.7.1 Appropriateness of e-learning tools (RQ1)

The study used “The great app checklist” (Appendix A) and the “Evaluation tool for instructional function” (Appendix B) to determine the e-learning tool that can be used to enable activities that were not possible in the classroom. A list of e-learning tools was found, and the Facebook page was selected for this lesson. The Facebook page was tested and proved to be appropriate for the lesson. This appropriateness was demonstrated through learners achieving all the expected learning outcomes.

After the lesson analysis had been presented, it was found that all the lesson outcomes were achieved. The learners were able to analyse the prescribed book in terms of characters, point of view, theme, background, dramatic structure, tone, and ending (LO1), which topics were taught in the previous lessons. The learners showed good values by working effectively as an individual and also in a team. The learners could create multimedia, summarising any topic they have learned in the previous lessons (LO2). The learners showed to be familiar with uploading, commenting, and accessing the multimedia on Facebook page anytime and anywhere (LO2 and LO3).

The selected e-learning tool is aligned with the criteria of the e-learning tool needed for this level of the SAMR model, as it offers learners a chance to download, upload, and comment on educational materials. Learners can store their educational material and come back and use it for revision. Learners can download past materials such as past question papers, quizzes, videos, and documents and upload them on the Facebook page for sharing and revision. Learners can upload their materials to be accessed by other learners from the same class or other schools. The learners can comment and share views. The teacher can control the comment section.

The software is aligned with the syllabus, curriculum and is at the appropriate SAMR level for the learners. It is free, though it requires Internet data to operate. The Facebook page was integrated into a lesson so that it facilitated higher-order thinking skills, provided an authentic experience, facilitated collaboration, and was engaging to use. The e-learning tool requires a learner account and offers a different online social experience for learners' customisation of learning. Furthermore, it is mostly easy to use, accessible on all the necessary platforms, size appropriate, and has a privacy policy that a teacher sets to protect the learners' data. The teacher can see reports of the learners' usage. The purpose of Facebook in this study is to serve as an online storage place where learners can store their learning material to refer to it later for revision. Rural context issues such as limited textbooks, heavy textbooks, and damaged learning materials due to fires, thefts, and deteriorating infrastructure were temporarily addressed. Teachers could now upload a soft copy textbook, videos, and audio to the class' Facebook page for learners to download at anytime and anywhere.

4.7.2 Challenges experienced by IsiNdebele teachers (RQ2)

The challenges experienced by the participants during the implementation of the study are summarised by pointing out the main themes that arose from participants and the teacher's self-reflection in the study.

Learners lack devices.

Learners lack proper devices to participate in this lesson. The participants mentioned that they own or have at home the following devices: computers, cell phones, smartphones, and laptops that are compatible for use in this lesson. However, during the implementation of the lesson, it was found that few learners own one of the mentioned devices. Many learners borrow the devices from their parents or siblings, so the owner can ask for them at any time. Participant 17 said:

> *Doing the assignment at home for me was a challenge because I would have to borrow my sister's smartphone to record the video. And she would rush me because she does not want to miss out on her WhatsApp conversations.* (Participant 17)

Participant 14 mentioned: *"If it was not for COVID 19 restrictions, I would have to go to the Internet cafes and ask them to help with the assignments since no one at home owns a smart device; unfortunately, they were closed."*

In this regard, the researcher believes that moving to e-learning at scale typically benefits learners already equipped with the necessary tools to engage in e-learning (Dube, 2020). Learners in poor communities are excluded based on poverty simply because e-learning is continuous learning and goes beyond the classroom in most cases. If they cannot use the e-learning tools anywhere and anytime, the purpose of implementing e-learning fails. The World Bank (2020) observed that e-learning will only benefit the rich over the poor, high-performing over low-performing, urban over rural, learners in highly educated families over learners in less well-educated families.

Expensive internet data.

To be able to post the multimedia on the Facebook page required learners to have adequate internet data. The participants reported that the internet data was too costly, which is why they could not post their multimedia on the Facebook page while they were still at home. Observer 4 discussed:

> *Most of our learners survive on the government grant, of which is too little to buy smartphones and worse part buying data. This could be the reason most learners went back to paper and pen to do the assignment.* (Observer 4)

Those learners that did have smartphones, simply just transferred their work to the tablets to be posted on the Facebook page. We then had only two tablets connected to the Internet, which was our uploading station. When learners were done with their assignments, they would come and upload their work on the class' Facebook page. The lesson became a success since only two devices were connected to the school Wi-Fi, and learners used the other tablets to do their assignments.

The expensive Internet data highly impedes the utilisation of e-learning tools, which disadvantages learners and teachers in rural schools. Therefore it is important that the cost of data is reduced or the Department of Basic Education provides free access to learning material or provides schools with data that is tailor-made for learning purposes to accommodate poor communities (Dube, 2020).

No support from parents or at home.

The learners do not receive full support at home for their school work, which is even worse when using technology. Most of the rural learners' parents are uneducated, do not know how to utilise technology tools in their daily life, and do not have daily Internet facilities (World Bank, 2020). The educated siblings are mostly far away at colleges and universities. As a result, parents fail to assist their children with their school work and using educational technology tools, which can impede learners' development of technological skills. The learners also mentioned that parents do not trust them to be doing school work using technology devices; for example, Participant 19 wrote:

> *One of the biggest challenges with this lesson was convincing my parents that I have an assignment that I need to do using a smartphone. This is because my parents do not believe that we can learn or do school work using cell phones. They think that I am always playing phone games.* (Participant 19)

Most rural learners do not receive assistance at home towards their school work, which can seriously impede their marks at school. Participant 9 indicated that *"my parents would just buy me data and leave me to do the assignment alone*."

Use inappropriate language.

In the comments, section learners were confused as to which language they have to use. It was evident when they constantly switched between IsiNdebele and English when they commented or completed their surveys. To make matters worse, learners would also use slang language and cut or shorten words.

To assist learners in understanding the text, teachers switched to the local language to clarify unfamiliar English terms. It is common for teachers to use vernacular to explain concepts to learners who are not proficient in English and to tell stories to reinforce messages. When learners face communication problems, they also tend to switch between the vernacular and English repeatedly as a means to deliver the message (Bahous et al., 2014).

Not all learners have a Facebook account.

It was found at the last minute that not all learners used Facebook or had a Facebook account, although it was highly popular among youth or teenagers. Prescott et al. (2015) in their study mentioned that when planning to use Facebook, it is important to consider the fact that not all learners will have a Facebook account and use the site. A few participants that were not on Facebook wrote comments. Participant 17 said: "*I was convinced by my parents not to have a Facebook account because of the things that people post on Facebook.*"

Participant 2 wrote: "*I never thought Facebook can be used as part of formal learning in school, I had a Facebook account but I lost my login details due to not having a cell phone*."

Despite all the challenges encountered by the class, the learners enjoyed being outside the classroom and being trusted with tablets. The learners developed logic and reasoning skills through summarizing the topics they have learned before. They are motivated to be critical thinkers to be able to create multimedia that can help themselves and other learners revising a particular topic.

The lesson was mostly challenging to learners since they had to do most of the work, such as choosing a topic, summarising it, and creating multimedia that would be uploaded to the Facebook page. Fakebook was an appropriate e-learning tool for the lesson, as it helped in achieving all the learning outcomes expected. These learning outcomes included analysing the prescribed book within the given concepts (LO1), creating and sharing multimedia (LO2), and uploading, commenting and accessing the multimedia on the Facebook page anytime and anywhere (LO2 and LO3). The lack of devices at home had a huge impact on the lesson, which influenced the changes in the lesson implementation.

4.8 Lessons learned (RQ3)

The study not only points out the challenges but also presents lessons learned and possible solutions suggested by the teacher, observers, and learners to enhance the teaching and learning of IsiNdebele in a rural context.

Learner motivation.

Although some learners were distracted by all the buttons and possibilities of using a tablet, using technological devices motivated learners to behave, study hard, and engage fully in the learning experiences because they wanted to continue using the tablets. Working with technology devices improved learners' digital literacy and communication skills swiftly. Moreover, they tend to process the information faster when watching a video because they see and hear the concept being taught. The lesson learned in terms of the e-learning tools such as Media Player helped with increasing knowledge retention since

learners could pause, rewind, fast-forward, and replay the video as many times as they wanted. Observer 1, noticed that, *"most learners had enjoyed watching and listening to the video, which boosted their listening skills."*

Observer 1 also added that, *"the lessons were well planned in a way that let learners apply the knowledge and skills learned, rather than producing notes as they are (memorising)."*

E-learning tools make it possible for each learner to be provided with a more suited path for their needs, even within formal teaching. If learning objectives are clear, this will result in great efficiencies, and many of them will have a positive impact on learners' motivation, as they will be less likely to become bored or confused (Dron & Anderson, 2016).

Using tablets daily.

Using tablets for educational purposes must become a routine and part of the learning activities of learners. In doing so, the novelty and initial excitement will be reduced. This is necessary for learners to focus on the content or educational activities while working with tablets. Learners using tablets in all their learning areas will reveal various ways to use technology devices to enhance their learning, using their own devices, in their own space. Learners already know some of these e-learning tools and are familiar with them, but they did not know they could also use them in their learning practices. Participant 15 indicated: *"The Media Player and the Facebook page were easy to use because we usually use the Media Player to watch movies and Facebook to socialise. The Microsoft Word, Microsoft PowerPoint, and Microsoft Excel were challenging but worth it."*

It is of importance to implement lessons where learners use tablets from small learning activities to complex learning activities, for example, from selecting correct answers for classwork on the tablet to typing an essay, or planning a game. These activities will develop their skills of computer literacy while constructing knowledge for that particular subject. So learners do not always feel as if it's a reward to use tablets. At the beginning of each lesson, learners must be informed of the purpose of the lesson, why a specific e-learning tool was selected for that specific lesson, and what was expected from them.

Thereafter, learners should be able to select their e-learning tools for their learning pr actices, even without a teacher.

Enhanced classroom dynamics.

The selected e-learning tools were integrated to change the normal classroom dynamics to a more positive classroom atmosphere. Learners' interaction with each other and between learners and teachers changed to a comfortable learning community of practice. Learners' participation improved (Balcikanli, 2015), as they could share school materials using SHAREit and Facebook Messenger. Observer 4 stated: "*Facebook page was the best-selected e-learning tool because learners are familiar with and can express themselves freely in the Facebook platform."* Participant 8 added: *"It is low cost, as we can access it for free called "Free mode" for text messages and posts."* Participant 13 further mentioned: *"It was quite enthusiastic to see our everyday tools being used for learning in an IsiNdebele lesson. That motivated us to participate, to see what more the teacher can do with these software tools".*

The video, canvas (posters), computer-based assessment, and game materials used in the study made the learning process more fun. The e-learning tools allowed learners to learn the same material repeatedly until it was retained, which helped learners with difficulties in learning new ideas. By having fun during learning, learners retain the knowledge for a long time. Hence, by repetition of learning, knowledge is retained better (Srivastava, 2018).

Employment of an assistant.

To properly manage the classroom, the teacher needed to be an active facilitator at all times by moving around to see what was happening in each group. Therefore, the teacher needed a teaching assistant to assist with administration, facilitation, and disciplinary measures. A teaching assistant in the classroom could have been of great help if the learners were struggling with following the instructions or anything that could give them problems with the device, e.g., technical issues. Observer 3 also agreed, stating: *"Teacher assistant is needed in this classroom dynamics to assist the teacher in*

facilitating learners with special educational needs to catch up with the teacher at all times."

Classroom management.

Furthermore, the classroom should be managed to create a climate of trust that encourages learners rather than controlling them. This classroom management can be achieved by using the following strategies: Firstly, electing classroom representatives to assist in monitoring behaviour. Secondly, creating class rules together with learners to make them responsible for their actions and behaviour. Lastly, selecting and assigning extra activities if a learner misbehaves or finishes the planned activities earlier than other learners. The extra work can be done immediately to keep the learner busy; it can also be homework or work in the school garden as a punishment for inappropriate behaviour. Observer 4: mentioned: "*Enforce classroom rules at all times and remind learners of the classroom rules always at the beginning of the lesson*."

When managing the classroom, the teacher must be fully aware of her learners' diverse learning bits of intelligence to put the correct measures for learner enrichment and learner support in place (Rolfe & Cheek, 2012). Observer 3 advised: *"Ensure that the topic relates to the children's daily life and it also integrates with other subjects or other learning areas or content."*

Observer 1 also added:

> As a teacher study learners' learning styles and make sure you cater for everyone so that every learner finds interest in the topic. Secondly, the integrated educational media (video in Media player) improved understanding, just that it needed as many activities as *possible to challenge learners and keep them occupied till the end of the lesson.* (Observer 1)

Rolfe and Cheek (2012) shared several sentiments, including creating class rules with learners so that they became responsible for their actions and behaviour and assigning extra activities if a learner misbehaved or finished the planned activities before other learners could assist in classroom management.

Encourage group work

Collaboration means working effectively in diverse groups, valuing individual contributions, and making compromises to achieve a common goal (Kaufman, 2013). Learners should be told from the beginning of the lesson that they are only allowed to submit as a group with all members present to get marks to encourage cooperation in groups. Also, you can allocate marks in the rubric for "collaboration"; in that case, learners are motivated to work together and value each other's cooperation. Teachers must keep the groups small with learners having heterogeneous skills to assign themselves different roles or duties that suit each other's best skills and interests. It is important to encourage learners to delegate or assign themselves roles to manage time during group work. Learners must be motivated to explain to each other at all times “how they reached the answer” and appreciate how important it is to discuss the decision to complete the task given, so all the group members can explain and present the task if needed. In addition, an individual needs to manage time effectively, be resilient, possess leadership skills, and avoid making mistakes when presenting (Kaufman, 2013).

Observer 2 said:

> *At the end of the lesson, learners were able to submit their Mind maps in groups, but they could not share them with the rest of the class, because of the time-limited. In groups, learners were able to share skills and content of which made it easy for them to be able to do the activity and submit.* (Observer 2)

Observer 1 added: *“Have class discussions to help each other understand. By choosing any learner to answer the question, and if the answer is wrong the whole class forfeit. That will motivate learners to help each other.”*

Disable all unnecessary applications and websites

A solution to ensuring that learners are viewing the same screen as a teacher is to disable all the applications and websites on the devices that would not be used on that particular lesson. Observer 3, proposed: **“***Have a free monitoring app to restrain learners from downloading inappropriate multimedia such as videos, audios, and*

pictures during class. It can also restrict them from browsing websites that are not part of the lesson."

Use of data-free e-learning tools.

It might be worthwhile to investigate offline alternatives for online e-learning tools that may require internet data. Consider using what is available to you. For example, in this study, "*Microsoft Excel was used to design a test even though it was not created for that.*" Furthermore, using data-free e-learning tools that can do the same activities as the paid e-learning tools may avoid poor network connectivity and save data usage.

Additionally, rural teachers must have an alternative e-learning tool for each planned lesson or another method of delivering the planned lesson at all times. It is necessary, that teachers must be flexible in adapting their pedagogy to the content, alternative e-learning tools, and the rural learners. Among the study's major conclusions is that teaching strategies for rural schools must be carefully planned to avoid limitations due to rural challenges such as unreliable Wi-Fi and Internet, and limited resources.

Private settings.

In all the e-learning tools, there were private settings that I did not use. Observer 3 mentioned: "*Private settings could have avoided learners rewriting the tests to get better marks*."

The Microsoft office tools have privacy settings that would require a login password to access that document, slides, or spreadsheet. Microsoft Word, Microsoft PowerPoint, and Microsoft Excel have settings and policies for privacy, where you can set a password for the document, and only the person with access to the password can open it. Facebook page has privacy policy settings as well that a teacher has to set to protect the learners' data, and the teacher can see reports of the learners' usage (Moghavvemi et al., 2018).

Instant feedback.

Learners enjoy competing, so knowing that they will all get their results simultaneously after the test was motivating. It made them rush through the test. The peer language teacher, Observer 3, suggested: "*You should increase the number of questions, use*

bloom's taxonomy to formulate questions, and lastly create extra tests or activities to keep the learners who finish faster busy." He continued: *"Luckily, the teacher had extra work planned for those who finish early, though it is difficult to facilitate learners doing four different activities*."

Pezzino (2018), in his study, found similar results, namely, that computer-based assessment in Microsoft PowerPoint and Microsoft Excel facilitated higher-order thinking skills, presented an authentic experience, encouraged engagement, and provided immediate feedback. Furthermore, teachers could see the results of learners' usage, and the test questions could be exported and shared on social media. The spreadsheet can be uploaded to different social media platforms for learners to practise at home or for other learners to take the same test. Learners can also create their tests or activities to assess each other in class or at home.

Enable class discussion to continue outside the classroom.

The use of social media platforms such as Facebook pages is one of the excellent communication tools that teachers can use to communicate with learners, and learners can use to communicate among themselves. Teachers and learners can use it to distribute learning materials such as soft copies, links, and other multimedia. This particular e-learning tool allows learners to continue with class discussions anywhere and anytime, using any smart device (McQuiggan et al., 2015). Observer 4 said: *"The selected e-learning tools were best chosen as they can be accessed from any other technology devices for learners to continue with what was done in class."*

E-learning tools enhanced the teaching and learning of the IsiNdebele language in a rural secondary school context.

The integration of the selected e-learning tools enhanced the teaching and learning of the IsiNdebele language. The enhancement of teaching and learning of the IsiNdebele language is demonstrated through achieving most of the expected learning outcomes in each lesson. Buabeng-Andoh (2012) said that e-learning tools enhance learner engagement, learning strategies, and teaching practices, which is true according to the study. Using e-learning tools to learn the IsiNdebele language, learners' engagement,

stimulation, and interaction have increased beyond the classroom. The use of e-learning tools improved learners' classroom participation by showing the possibilities of learners being able to discover knowledge independently, summarise it, and share it with peers.

In the first lesson, the teacher and learners shared or distributed an educational video amongst each other using a software e-learning tool called SHAREit in an easy, free, and convenient (short time) way. That would not have been possible without the use of e-learning tools. The integration of the shared educational video in the lesson positively impacted this particular lesson's teaching and learning practices. So the results showed that the video helped the learners to recall, retain and absorb the concepts and ideas more conveniently than in the traditional teaching method, as they were able to pass the test with an average score of 7.6 out of the total of 10 marks. In his study, Willingham (2009) mentioned that learners could retain ideas and concepts better when using visual media instead of just text media.

The use of educational videos in the classroom increases social interaction among learners and the teacher by allowing them to discuss the videos and how they relate to them. This approach encourages a positive attitude in learners towards learner-centred activities, where learners can learn from each other such as group work, class discussions, and presentations. For that reason, learning is no longer solely dependent on the teacher to provide knowledge to learners but to facilitate learning.

Media Player as a free e-learning tool makes educational videos easily accessible for remote areas. Learners can access the videos anytime, anywhere, and on any kind of mobile device such as a tablet, smartphone, desktop, or laptop. In this way, learning is enhanced since learners can study the educational video at their own pace and be more deeply involved with the detailed options such as rewind, pause and stop to practise the IsiNdebele language. In addition, learners enjoy the experience of innovative learning that facilitates engagement by giving them more control over the pace of their learning (Beheshti et al., 2018).

The teaching and learning processes became enhanced as e-learning tools provided the easiest and most meaningful way for learners to summarise information, analyse

concepts, and create learning materials. The mind mapping method is an effective technique that learners use to easily place essential information from the process of studying the material (Miranti & Wilujeng, 2018). With Microsoft Word, learners create meaningful mind maps using lines, arrows, shapes, equations, symbols, colours, fonts, and SmartArt. Learners showed more interest in using Microsoft Word than a pen and paper to create mind maps that can insert pictures, sources of articles, graphs, links/URLs and tables relevant to the topic. A learner can easily organise their knowledge with all the different colours, fonts, and font sizes, which would require a lot of time and stationery when using crayons, pens, and paper. By adding colour to mind maps, knowledge becomes more memorable (Dewantara, 2019).

In this study, Microsoft Word was used to facilitate discussions, share and test knowledge in groups and individually. Indeed, all the collaboration was achieved by providing learners with opportunities to construct knowledge, see the relationship between concepts, and integrate materials from multiple sources. Based on the lessons before and after using e-learning tools, the learners' learning outcomes improved. Learners were motivated and eager to find more knowledge by themselves, which made it easier for them to recall it and increased their cognitive skills (Shaykina, 2015).

Teachers and learners are increasingly taking advantage of computer-based assessments such as multiple-choice questions (MCQs), to enhance and transform their teaching and learning practices (Pezzino, 2018). The benefits of the computer-based assessments designed using Microsoft Excel and Microsoft PowerPoint can be used to enhance the learning and teaching of the IsiNdebele language in rural schools. Firstly, it provides rural learners with self-marked assessments that could be administered multiple times containing similar questions to practice the language and reinforce classroom-based learning. The tests motivated constructivist teaching by providing immediate feedback to rectify learners' mistakes and allow them to retake the test until the knowledge is mastered. According to constructivist learning theory, learners are taught by exploring new situations and making mistakes and reacting to what they see and experience (Pezzino, 2018).

Microsoft Excel and Microsoft PowerPoint are free to use and user-friendly to novice computer learners. The tools expose rural learners to basic computer skills and critical thinking by administering the computer-based assessments set up based on real-world problems. Learners showed a preference for computer-based assessments over paper tests because they can have tests in the form of games using simulations and combining a learning environment and recreation activities. These assessments increased learners' motivation and improved their learning performance.

Teachers also choose to use computer-based assessments rather than paper tests due to paper tests consuming a lot of time to correct or mark each paper. Using computer-based assessments improved the quality of feedback to learners because they receive their feedback immediately after writing the assessment while still remembering exactly how they approached each question to correct their mistakes. The teacher can easily track learners' performance and make analyses across multiple assessments in a short time. Lastly, with computer-based assessment, accurate results are provided (Alruwais et al., 2018). Microsoft Excel and Microsoft PowerPoint have been proven to aid teachers in implementing computer-based assessments that are accurate, developed, and fast to assess learners, besides the challenges found in a rural context.

Furthermore, Facebook significantly contributed to this study's enhancement of learning and teaching the IsiNdebele language. Facebook discussions have improved communication in classes; learners have participated more willingly and less under pressure than they usually do in face-to-face discussions. Shy learners prefer Facebook to exchange information and communicate freely by uploading documents, pictures, videos, audios, games, comments and reactions related to the posts. In this way, teaching and learning can continue beyond the classroom by sharing educational resources, continuing with class discussions, and have peer feedback at any time. According to Loan (2019), using Facebook for writing development increased performance, made feedback less burdensome and tedious, and increased enjoyment of feedback sessions.

Moreover, Facebook is an effective educational tool in the rural context, as it augmented teacher-learner and learner-learner interaction, resource sharing, collaboration and

increased their ability to use online technologies. As an online storage service, Facebook allows learners to access their educational resources anywhere, anytime, on any device, provided they have access to the Internet. This flexibility is useful since learners usually lose the printed notes provided by teachers or because the notes are too heavy to carry. Therefore, having them stored on an online platform allows learners always to have them available whenever necessary. The last benefit of Facebook observed in this study was that it encourages group learning and creativity, stimulates reflection, organises ideas, and shares practical experiences (Chugh & Ruhi, 2018).

As determined by the number of learners achieving the learning outcomes set, e-learning tools are beneficial in improving the teaching and learning of the IsiNdebele language in rural secondary schools. The integration of the selected e-learning tools transformed the teaching and learning of the IsiNdebele language. Although the study was set out to enhance learning at the substitution and augmentation level of the SAMR model, it actually showed that teaching and learning could also be transformed with these particular e-learning tools in the rural context. The integration of e-learning tools in the IsiNdebele language ensured skills development and provided learners with real-world learning opportunities to participate in the 21st century.

4.9 Conclusion

This chapter presented the accessibility and the use of technology devices for educational purposes before learners participated in the study. After that, it outlined the selected e-learning tools under each level of the SAMR model, showing how each lesson was implemented integrating the e-learning tool chosen to teach and learn the IsiNdebele language. Integrating the selected e-learning tools under each level of the SAMR model has revealed the appropriateness of each tool and the challenges encountered during the study. The chapter concluded with the lessons learned during the implementation highlighted by the learners, observers, and the researcher. In chapter five, the conclusion of the study is discussed. The chapter summarises the appropriateness of the selected e-learning tools, the challenges experienced by rural IsiNdebele teachers, and lessons learned from implementing the selected e-learning tools. Further, it discusses the results of the study and recommendations for stakeholders and further research.

CHAPTER FIVE: CONCLUSIONS

5.1 Introduction

In the previous chapter, a narrative discussion of the findings was presented, addressing the first and second research questions under each level of the SAMR model. This discussion indicated that the root of most challenges is an Internet connection, which led to all the lessons being adapted in some way or other. Adapting and implementing these four lessons has revealed the greatest lessons learned in utilising the selected e-learning tools in a rural IsiNdebele classroom, which addressed the last research question. The present chapter will indicate the extent to which e-learning tools enhanced the teaching and learning of IsiNdebele home language in a rural secondary school context. By summarising the findings of the research study, reflecting on the lessons learned, examining the study's limitations, and making recommendations for further studies, the researcher will identify the extent to which e-learning tools enhance the teaching and learning of IsiNdebele language in a rural context.

5.2 Summary

The study's findings revealed that e-learning tools enhance the teaching and learning of the isiNdebele language in rural secondary school contexts. The study has found a list of e-learning tools that can be used to teach and learn the IsiNdebele language. However, the list becomes narrowed when these e-learning tools have to be used in the rural context because of specific challenges. The implementation of e-learning tools, integrated differently in each level of the SAMR model, had an impact on acquiring IsiNdebele language learning skills and 21st century skills by learners. After a lesson critique, learners showed positive results in obtaining the expected skills, which was enabled by the integration of the e-learning tool in the lesson. Learners acquired different language learning skills and 21st century skills in the different levels of the SAMR model while developing their computer skills.

As a result, the traditional classroom teacher-centred instruction gradually gave way to a new learner-centred approach involving easy sharing of information, creating and analysing learning material, and allowing learners to learn anytime and anywhere through

e-learning tools. The freedom of learning inside and outside the classroom through observing or receiving information, and through interaction with peers in class and on the Internet, positively impacted the language's gradual growth towards modernity and improved learners' final marks. Heil et al. (2016) confirmed that a language reaches modernity when its content is developing, and the language materials can be accessed from different platforms in various forms of media. Therefore, learners can practise the language as they are exposed to different language learning methods. Teachers also acquire different skills of integrating e-learning tools into their teaching. This skills upgrade promotes a good academic foundation for enhancing 21st century skills development in the IsiNdebele language.

5.2.1 Appropriateness of e-learning tools (RQ1)

Eight e-learning tools with relevant features suitable for teaching and learning the IsiNdebele language in rural secondary school contexts were selected and studied. The study revealed that many e-learning tools can be adapted for teaching and learning the IsiNdebele language since it does not yet have e-learning tools developed specifically for it. Most of these selected or studied e-learning tools are generic applications or websites that are designed in English. There are also e-learning tools that have been designed specifically to teach and learn the English language. This study showed that several e-learning tools could be adapted for integration into teaching and learning most African languages, such as IsiNdebele.

Therefore, many e-learning tools can be used in teaching and learning the IsiNdebele language in secondary schools, but only a limited number of these e-learning tools can support the integration of technology in rural contexts. The following features must be considered for e-learning tools to support or be adapted appropriately for integration in rural contexts: Firstly, the e-learning tool must preferably operate free of charge, have an offline option, and use little to no data. The size of the e-learning tool must be small in byte size to be accessed from different devices such as laptops, smartphones, and tablets. Moreover, the e-learning tool should be programmed to operate on Android, Windows, Google's Linux-based, and Apple's iOS operating systems, as Tetard and Patokorpi (2008) mentioned in their study.

Irrespective of the limited technology resources and facilities, e-learning was successfully implemented. The e-learning tools selected for this study were Media Player and SHAREIt (to replace YouTube), Microsoft Word (to replace GoConqr), Microsoft PowerPoint, Microsoft Excel, and the Facebook page. In general, all these selected e-learning tools were appropriate for teaching and learning African languages such as IsiNdebele. However, YouTube and GoConqr e-learning tools were not suitable for integration into teaching and learning in a rural context because of the limited Internet connectivity. During the study, they were replaced with offline e-learning tools that performed similar functions at the same level of the SAMR Model and for the same cognitive purposes.

According to the analysis of the four lessons presented, only one lesson was not implemented successfully because of the limited time and limited functions of the e-learning tool to save the document to be accessed anytime, anywhere with any device, as mentioned in Chapter 4. Therefore the e-learning tool was not appropriate for the augmentation but appropriate for substitution in the SAMR Model. In the rural context. The last level of the SAMR model is the most challenging since it requires creating new tasks that would have been impossible before technology. Internet data was required for this task, and the lesson planned had to be modified/improved due to rural context challenges to be successfully implemented and achieve the set outcomes. Despite many challenges, the e-learning tools were appropriate for teaching and learning IsiNdebele in a rural secondary school context. Moreover, the e-learning tools are easy for learners to use, despite the initial struggles.

As opposed to the common rural challenges of lack of technology devices, this study revealed that in the rural context, smartphones are more available and more commonly used than laptops, computers, and tablets/iPads at home. However, in some schools, tablets might be readily available. Consequently, most learners have already experimented with educational apps before the research, and it might be easy for them to use e-learning tools in a classroom. However, in their study, Msiza et al. (2020) argue that learners must be thoroughly trained in the use of tablets and accessing applications

since most learners are from previously disadvantaged families and it might be their first time using tablets in a classroom.

Nevertheless, most rural learners showed positive use of their devices towards using them for educational purposes while none of the learners has ever used the devices to complete assessments (see Chapter 4, Table 4.2). These results showed a gap in using computer-based assessments in teaching and learning practices in rural secondary schools. Furthermore, the results show that learners are enthusiastic about using technology in their learning practices but limited by skills because of the rural context. Additionally, in their study, Msiza et al. (2020) also found that learners are excited about the implementation of e-learning because they are looking forward to innovative ways of learning. However, most rural teachers still lack the technology skills and lack proper training on how to successfully integrate e-learning tools in rural context or integrating e-learning tools in general, which makes it difficult to help learners as highlighted by Dube (2020). Therefore, rural learners have limited skills and knowledge on using their smartphones for educational purposes.

To maximise e-learning integration in the rural secondary school context, the teacher should plan the lesson using the e-learning tools in pairs or more to interact together to reach a certain potential of a SAMR level. For example, Media Player and SHAREit complement each other when incorporated. As shown in this instance, the Media player substitutes the direct instruction. Instead of the teacher presenting the topic content to learners, the video played through the Media player presents the content to learners. Then the SHAREit application was used to distribute the learning material (video) to learners from the teacher to the learners and amongst the learners. The lesson was successfully implemented, and the tools were appropriate for the substitution level of the SAMR.

According to Chugh and Ruhi (2018), teachers usually use Facebook to communicate with learners and other teachers to facilitate collaboration, interaction, and resource sharing.

Learners already use Facebook and are familiar with it, providing a quicker and more convenient way to contact them. Facebook in this specific study acts as online storage where learning material can be stored so that learners can refer to it later for revision. This use of Facebook contributed to solving rural context issues such as limited textbooks, learners carrying heavy textbooks, and damaged learning materials due to fire, theft, and deteriorating infrastructure. So now, a teacher can download a soft copy textbook, videos, and audio and upload it on the class' Facebook page for learners to download anytime and anywhere.

The selected e-learning tools were appropriate to substitute, augment, modify and redefine the learning and teaching activities in IsiNdebele in a rural secondary school context. This appropriateness is demonstrated through the successful implementation of the lessons and most of the expected learning outcomes being reached or achieved.

5.2.2 Challenges experienced by IsiNdebele teachers (RQ2)

The challenges experienced by rural IsiNdebele teachers are routed from the IsiNdebele language not having e-learning tools developed specifically for it. Therefore, the selected e-learning tools have to be modified to teach the IsiNdebele language, for example adding/ changing the English language to IsiNdebele language. In addition, they have to relate to the curriculum needs, provide pedagogical requirements (higher-order thinking skills, authentic experience, collaboration, innovation and engaging to use), work optimally in the rural context, and accommodate rural learners' limited technological skills. These challenges are found and summarised under each level of the SAMR model in the previous chapter, with some overlap across the levels, such as limited technology resources, unreliable network and Wi-Fi connection, novelty, anxiety, and lack of learners' computer skills learners.

Most rural secondary schools have a limited number of technology devices, where the free education policy resulted in rural schools being dependent on donated devices (Johnson et al., 2016). They rely heavily on government grants, corporate organisations, NGOs, and individuals to donate technology devices and funds, which are not enough and are very inconsistent (Kaumba et al., 2021). As a result, the limited number of devices

are then reserved for only the science subjects, such as Computer Applications Technology (CAT), and language teachers are not allowed to use the devices.

The expensive Internet data impedes the utilisation of e-learning tools after school hours, which disadvantages learners and teachers in rural schools. Since e-learning is continuous learning and goes beyond the classroom in most cases, learners from poor communities are excluded because they cannot use some of the e-learning tools anywhere and anytime. The issue of data has been highlighted by Dube (2020) as an obstacle to e-learning. It is critical to reduce the cost of data to accommodate deprived communities or provide data that has been tailored for learning purposes. However, Srivastava (2018) argues that e-learning is cost-efficient and convenient for learners, as learners can download and save the learning materials to use anytime. According to the study, e-learning is still developing in rural areas, and equipment such as smart devices, Internet data, software programs, and creating learning materials may be expensive to have all at once.

Another challenge faced by the teachers in rural classrooms is that rural classrooms are not conducive to the use of technology. According to the World Bank (2020), most rural classrooms lack technology resources and facilities such as electricity or electric sockets; multimedia/data projectors, computers or tablets, printers, scanners, computer laboratories, blinds or curtains, and speakers, which hinders the utilisation of e-learning tools in classrooms. Mashile (2016) further states that educational institutions have up-to-date hardware and software resources as a critical feature in the implementation of e-learning, but it is not the case in rural schools. Consequently, the teacher always has to think fast and improvise the lesson or have other measures in place to ensure the lesson continues at all times. This study found that just one challenge can drastically affect the already planned lesson, and yesterday's solution may not be applicable today. Torres and Giddie (2020) proposed that teachers should be prepared to work in schools with limited resources and without access to advanced technology. Teachers should be knowledgeable about these challenges and be trained to use the tools readily available in their schools effectively.

Rural teachers and learners are left with using only offline e-learning tools because of the insufficient Internet connection. In turn, this inhibits rural learners' online learning development and limits their access to additional information for their research projects and assignments. The ability of a school to effectively integrate e-learning tools in the classroom is impacted by the resources available and committed to the integration of technology. Therefore, if e-learning tools are ineffectively integrated, learners will not benefit from e-learning enhancing their literacy. Consequently, the World Bank (2020) observed that digital literacy challenges are increasing, and the digital divide continues to expand between rural areas and urban areas.

Integrating e-learning tools in the classroom will not be effective if learners lack specific computer skills, allowing them to complete tasks and work easily and securely. In most cases, rural learners seem to have expected knowledge and understanding of the content, though it is limited because they cannot express themselves using the e-learning tools. Consequently, when learners find challenges in the given activity, they lose interest, attentiveness, or motivation in that activity and end up no longer participating or cooperating. Srivastava, (2018) also documents in a literature review that when learners lack motivation, there is no edge to look over, so they are less likely to achieve the set goals.

From the above discussion, it is clear that the lack of technology resources and facilities is a serious impediment to e-learning implementation in rural areas. As a key factor in the implementation of e-learning, educational institutions must have up-to-date hardware, software, and Internet resources, but this is not the case in rural schools. Nevertheless, a school's ability to successfully integrate e-learning tools in the classroom is influenced by the available resources and the teacher’s commitment to integrating technology. This lack of resources resulted in increasing digital literacy challenges, and the digital divide continues to widen.

5.2.3 Lessons learned (RQ3)

The study has presented lessons learned and suggested possible solutions to ensure e-learning tools enhance the teaching and learning of IsiNdebele in a rural context. As a

result of the study, it was identified that using technological devices motivated learners to behave, study hard, and engage fully in the learning process. Digital literacy and communication skills quickly improved when learners worked with technology devices. Additionally, they process the information faster when watching a virtual e-learning tool because they see and sometimes hear the concept being taught. Similarly, Willingham (2009) found that learning ideas and concepts are easier to recall when visual media are used instead of text media, and being able to pause, rewind, fast-forward and replay the video are the most significant benefits of using videos (Beheshti et al., 2018).

Reflecting on all the lessons presented, the main lesson learned was the importance of learners using e-learning tools daily and in all their subjects for educational purposes. By using e-learning tools, the novelty and initial excitement will be reduced so that learners can now focus on the content while using the devices. Further, schools with limited technology devices should reconsider their access policies so that teachers who desire to use technology devices are given a chance. Learners using tablets in all of their learning areas will reveal a variety of ways to enhance thFeir learning by using their own devices in their own spaces. The learners are already familiar with some of these e-learning tools but did not realise they could apply them to their learning practices.

Integrating e-learning tools familiar to learners improves learners' participation and interaction with each other and between learners and a teacher. It enhances the classroom dynamics to provide a more positive learning community that shares learning materials. Facebook was mostly recommended because learners are familiar with it; they can access it for free (Free Mode) and express themselves freely. Although ethical standards, safety measures, and the protection of learners' privacy should be in place. Balcikanli (2015) supports these findings that Facebook becomes a useful tool in language teaching and learning because it increases teacher-learner and learner-learner interactions. In fact, the study determined that Facebook could be even more valuable in rural schools since it could be free or use much less data and it was user-friendly for learners with limited technological skills.

It is important to implement learning lessons where technology devices are used in the scaffolding process, from simple to complex learning activities, such as choosing the

correct answer for classwork on a tablet, to typing an essay, and participating in an educational game. The study's theoretical framework, the SAMR Model (see Chapter 2), influenced this lesson learned. The goal of the SAMR model is to encourage teachers to gradually integrate technology into a classroom, starting with substituting a teaching activity with technology to create a new activity previously impossible without technology. During that process, novice, anxiety-ridden, and computer-illiterate learners gradually learn computer literacy skills while acquiring knowledge of the IsiNdebele language or any other subject. Consequently, learners who are anxious about technology use eventually become comfortable and do not always see tablets as a reward.

Finally, yet importantly, learners must know at the beginning of every lesson how it is supposed to be completed, why the e-learning tool was selected for the particular lesson, and what is expected of them (learning outcome). As Hilliard et al. (2020) suggested, anxiety feelings are roused when important goals and values are threatened under uncertain conditions about what will happen. Following that, learners will also be able to choose their e-learning tools for their learning practices, even without a teacher present. This is reflected practically in Chapter 4, in lesson number four, where learners created their learning materials using the e-learning tools of their choice to share with the rest of the class.

Among the study's major conclusions is that teaching strategies for rural schools must be carefully planned to avoid limitations due to rural challenges such as unreliable Wi-Fi and internet access and limited resources. Rural teachers must have an alternative e-learning tool for each planned lesson or another method of delivering the planned lesson at all times. Teachers must be flexible in adapting their pedagogy to the content, alternative e-learning tools, and the rural learners, if necessary.

The most valuable lesson learned from this implementation is that learners gain skills and knowledge from helping each other, learning from each other, and cooperating while using the e-learning tools. Therefore, the teacher must ensure that e-learning tools that promote critical thinking, problem-solving, collaboration, communication, creativity and innovation in rural secondary schools are incorporated into the teaching and learning of the IsiNdebele language. The teaching and learning of the IsiNdebele language were

transformed; even though the study set out to enhance learning at the substitution and augmentation level of the SAMR model, it actually showed that teaching and learning can also be transformed with these particular e-learning tools in the rural context.

5.3 Discussion

As a result of this study, e-learning tools integration to teaching and learning is considered as one of effective means to enhance the teaching and learning of IsiNdebele in rural contexts. The study has offered an explanatory description of the appropriateness of the selected e-learning tools, the challenges experienced by rural IsiNdebele teachers, and the lessons learned from implementing the selected e-learning tools in a rural IsiNdebele classroom. The literature reviewed for this study largely substantiates and builds on Puentedura's (2006) work on the SAMR Model to encourage teachers to use technology to enhance the quality of their teaching. The SAMR model was valuable as it validated the extent to which e-learning tools enhanced the teaching and learning of IsiNdebele in a rural context under each level of technology integration. The presentation of the explanatory findings of integrating the selected e-learning tools in the IsiNdebele language in a rural classroom provides the researchers and teachers in the developing language research a comprehensive experience when implementing e-learning tools in the IsiNdebele language in a rural secondary context.

According to the study, there is a lack of e-learning tools designed specifically for teaching and learning IsiNdebele, which hampers the modernisation of the language. This study confirms, however, that the language can be modernised with generic e-learning tools. The literature and findings indicate that most e-learning tools are not designed to achieve educational purposes but can be modified to be used in education. Moreover, the study has provided insights into how other indigenous language teachers in rural areas can utilise the selected e-learning tools to enhance their instructional practices. Other subject teachers can use the instruments utilised in the study to select appropriate and relevant e-learning tools for their teaching practices, even in rural contexts.

It is evident that while rural IsiNdebele teachers and learners have agreed to the integration of e-learning tools, only offline e-learning tools would work in these

technologically disadvantaged schools. To use online e-learning tools, the Department of Basic Education needs to invest in ensuring equal access to technology resources and facilities such as reliable internet connections, computer laboratories, and technology devices.

The limitations related to the research methodology are two-fold: The study used a convenient, purposeful, non-probability sampling method to study the case, which means that the results are not statistically representing the population of all IsiNdebele teachers and learners in rural secondary schools. Secondly, there were English questions in the learners' questionnaires during an IsiNdebele language lesson, which confused the learners and reduced their reflection on the lessons.

5.4 Recommendations

Now that the research questions of this study have been addressed, recommendations will be built on the integration of e-learning tools in IsiNdebele, and the lack of technology resources and facilities in rural areas. The suggestions are focused on strategies that can alleviate the challenges associated with integrating e-learning tools into the IsiNdebele language in rural secondary schools. The challenges are often taken up by teachers and learners alike. As identified by the study, all key stakeholder groups–the government, schools, teachers, and learners, are crucial to successfully implementing technology integration in language learning and teaching in rural contexts. The recommendations address the roles of stakeholders and provide recommendations for future research.

5.4.1 Stakeholders

The Department of Basic Education, principals, and school governing bodies (SGBs) should provide adequate leadership by properly budgeting, offering employee training and development, encouraging parental involvement, and creating a disciplined and motivating learning environment to ensure learners receive optimal education. A key role for parents in the education of their children should be highlighted by involving them in school activities and providing parents with information and training sessions. An online community of practice for rural language teachers should be established to share their experiences with the e-learning tools they have used. This collaboration will reduce the

time spent by teachers configuring everything out by themselves. In South African schools, language teaching and learning implementation in rural contexts using e-learning tools will succeed if all the key role players come together and fulfil their mandates.

5.4.2 For further research

The study contributes to education research in South Africa's rural context. For that reason, there is a need to conduct a similar study in different rural settings, using different official African languages. Also, it might be valuable to explore teachers' teaching experiences using computer-based assessments while evaluating learning outcomes, using the "immediate feedback assessments tools", and the benefits of educational games. Using “immediate feedback assessment tools” and educational games to teach learners how to practice the language amongst themselves might also contribute to the developing research about IsiNdebele language modernisation.

References

Abrahim, S., & Mir, B. (2017). Exploring Academic Use of Online Social Networking Sites (SNS) for Language Learning: Japanese Students Perceptions and Attitudes Towards Facebook. *Journal of Information Technology & Software Engineering*, *8*(1), 4-9. https://doi.org/10.4172/2165-7866.1000223

Adelabu, O. A., Adu, E. O., & Adjogri, S. J. (2014). The availibility and utilization of e-learning infrastructures for teaching and learning. In *EdMedia+ Innovate Learning*. Association for the Advancement of Computing in Education (AACE).

Akcayir, G., & Akcayir, M. (2018). The Flipped classroom: A review of its advantages and challenges. *Computers & Education*, *126*, 334-345 https://doi.org/10.1016/j.compedu.2018.07.021

Al-Ali, S. (2014). Embracing the Selfie Craze: Exploring the possible use of Instagram as a language mLeanring tool. *Issues and Trends in Educational Technology, 2*(2), 1-16. https://doi.org/10.2458/azu_itet_v2i2_ai-ali

Al-Mubireek, S. (2019). E-Learning in the English Classroom: Comparing Two E-Learning Platforms Impacting Preparatory Year Students' Language Learning. *Computer Assisted Language Learning Electronic Journal, 20(*2), 19-37. http://callej.org/

Alruwais, N., Wills, G., & Wald, M. (2018). Advantages and Challenges of Using e-Assessment. *International Journal of Information and Education Technology, 8*(1), 34-37. https://doi.org/10.18178/ijiet.2018.8.1.1008

Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning*, 29-42. https://teachonline.ca/tools-trends/journals/international-journal-instructional-technology-distance-learning-itdl

Badugela, T. M. (2012, April 07). *Problems facing educators in implementing the national curriculum statement: The case of Tshifhena secondary school, Vhembe District, Limpopo Province, South Africa*. (Unpublished M Ed dissertation. Pretoria: University South Africa.)

Bahous, R. N., Nabhani, M. B., & Bacha, N. N. (2014). Code-switching in higher education in a multilingual environment: a Lebanese exploratory study. *Language Awareness*, *23*(4), 353-368.. https://doi.org/10.1080/09658416.2013.828735

Bailey, D., Park, I., & Haji, S. A. (2017). An Investigation of Facebook for Language Learning: Better Understanding Perceptions and Participation. *Computer Assisted Language Learning Electronic Journal, 18(*2), 14-30. http://callej.org/

Balcikanli, C. (2015). Prospective English language teachers' experiences in Facebook: Adoption, use and educational use in Turkish context. *International Journal of Education and Development using Information and Communication Technology, 11*(3), 82-99. http://ijedict.dec.uwi.edu/

Balida, A. R., & Encarnacion, R. (2020). Challenges and Relationships of e-Learning Tools to Teaching and Learning. In *European Conference on e-Learning* (pp. 48-XIX). Academic Conferences International Limited.

Basak, S. K., Wotto, M., & Belanger, P. (2018). E-learning, M-learning and D-learning: Conceptual definition and comparative analysis. *E-learning and digital media*, 192-216. https://doi.org/10.1177/2042753018785180

Baxter, P., & Jack, S. (2008). Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. *The Qualitative Report*, *13*(4), 543-559. https://nsuworks.nova.edu/tqr/vol13/iss4/2/

Beheshti, M., Taspolat, A., Kaya, S. O., & Sapanca, F. H. (2018). Characteristics of instructional videos. *World Journal on Educational Technology: Current Issues, 10*(1), 61-69. https://eric.ed.gov/?id=EJ1170366

Bhatia, R. P. (2011). Features and effectiveness of E-learning tools. *Global Journal of Business Management and Information Technology, 1*(1), 1-7. https://www.ripublication.com/gjbmit.htm

Boholano, H. B. (2017). Smart social networking: 21st century teaching and learning skills. *Research in Pedagogy*, *7*(1), 21-29. https://doi.org/10.17810/2015.45

Buabeng-Andoh, C. (2012). Factors influencing teachers' adoption and integration of information and communication technology into teaching: A review of the literature. *International Journal of Education and Development using Information and Communication Technology*, *8*(1), 138-155. https://www.learntechlib.org/p/188018/.

Burak, L. J. (2012). Multitasking in the University Classroom. *International Journal for the Scholarship of Teaching and Learning*, 1-13. https://doi.org/10.20429/ijsotl.2012.060208

Burston, J. (2014). The reality of MALL: Still on the fringes. *CALICO Journal*, *31*(1),103-125. https://doi.org/10.11139/cj.31.1.103-125

Chauhan, A. (2018, March 31). 11 Digital Education Tools For Teachers And Students. [Blog] Rhttps://elearningindustry.com/digital-education-tools-teachers-students

Cherner, T., Dix, J., & Lee, C. (2014). Cleaning up that mess: A framework for classifying educational apps. *Contemporary Issues in Technology and Teacher Education*, 158-193. https://citejournal.org/

Chhabra, P. (2012). Use of E-learning tools in teaching English. *International Journal of Computing & Business Research, 3,* 2229-6166. http://www.researchmanuscripts.com/ijcbr/

Ching, Y.-H., Hsu, Y.-C., & Baldwin, S. (2018). Developing computational with educational technologies for young learners. *Boise State University*, 1-15. https://doi.org/10.1007/s11528-018-0292-7

Chugh, R., & Ruhi, U. (2018). Social media in higher education: A literature review of Facebook. *Education and Information Technologies, 23*(2), 605-616. https://doi.org/10.1007/s10639-017-9621-2

Cohen, D., & Crabtree, B. (2006, July 4). Qualitative Research Guidelines Project. http://www.qualres.org/HomeInte-3516.html

Creswell, J. W. (2007). *Qualitative inquiry and research design.* Sage Publications.

Department of Education (DoE). (2003). Draft white paper on e-Education: Transforming learning and teaching through ICT. *Government Gazette, 470* (26734) www.gov.za/sites/default/files/gcis_document/201409/267341.pdf

Department of Education (DoE). (2011). Curriculum and assessment policy statement (CAPS). https://www.education.gov.za/Curriculum/CurriculumAssessmentPolicyStatements(CAPS).aspx

Dewantara, D. (2019). Improving students' learning outcome: Implementation mind mapping method with goconqr. *Jurnal Pena Sains, 6*(2), 97-102. https://doi.org/10.21107/jps.v6i2.6017

Drigas, A. S., Ioannidou, R.-E., Kokkalia, G., & Lytras, M. D. (2014). ICTs, Mobile Learnig and Social Media to Enhance Learning for Attention Difficulties. *Journal of Universal Computer Science*, 1499-1510. https://doi.org/10.3991/ijet.v9i2.3278

Dron, J., & Anderson, T. (2016). The future of E-learning. *SAGE Handbook of E-learning Reseearch*, 1-31. https://doi.org/10.4135/9781473955011.n26

Dube, B. (2020). Rural Online Learning in the Context of COVID-19 in South Africa: Evoking an Inclusive Education Approach. *Multidisciplinary Journal of Educational Research, 10*(2), 135-157. http://dx.doi.org/10.447/remie.2020.5607

Embong, A. M.,Noor, A. M., Hashim, H. M., Ali, R. M., & Shaari, Z. H. (2012). E-books as textbooks in the classroom. *Procedia- Social and Behavioral Sciences*, *47*, 1802-1809. https://doi.org/10.1016/j.sbspro.2012.06.903

Gale, N. K., Heath, G., Cameron, E., Rashid, S., & Redwood, S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology, 13*(117), 2-8. doi:doi:10.1186/1471-2288-13-117

Gelderblom, H., Matthee, M., Hattingh, M., & Weilbach, L. (2019). High school learners' continuance intention to use electronic textbooks: a usability study. *Education Information Technology*, *24*(2), 1-37. https://doi.org/10.1007/s10639-018-9850-z

Germaine, R., Richards, J., Koeller, M., & Schubert-Irastorza, C. (2016). Purposeful Use of 21st Century Skills in Higher Education. *Journal of Research in Innovative Teaching*, *9*(1), 19-27. https://www.emeraldgrouppublishing.com/journal/jrit

Ghavifekr, S., Kunjappan, T., Ramasamy, L., & Anthony, A. (2016). Teaching and Learning with ICT Tools: Issues and Challenges from Teachers' Perceptions. *Malaysian Online Journal of Educational Technology*, 38-57. https://www.mojet.net/

Gilakjani, A. P. (2017, july 26). A review of the literature on the integration of technology into the learning and teaching of english language skills. *International journal of English Linguistics, 7*(5), 95-106. https://doi.org/10.5539/ijel.v7n5p95

Gon , S., & Rawekar, A. (2017). Effectivity of E-Learning through WhatsApp as a Teaching Learning Tool. *MVP Journal of Medical Sciences*, 19-25. https://doi.org/10.18311/mvpjms/0/v0/i0/8454

Graham, K. (2019). TechMatters: GoConqr Online Teaching: Using a simple platform to create online learning assets. *LOEX Quarterly, 46*(3), 4-10. https://commons.emich.edu/cgi/viewcontent.cgi?article=1360&context=loexquarterly

Gu, X., Wu, B., & Xu, X. (2015). Design, development, and learning in e-Textbooks: What we learned and where we are going. *Journal of Computers in Education*, 25-41. https://doi.org/10.1007/s40692-014-0023-9

Harmon, H. L., Gordanier, J., Henry, L., & George, A. (2007). Changing Teaching Practices in Rural Schools. *The Rural Educator*, 8-12. https://doi.org/10.35608/ruraled.v28i2.480

Hasan, M., & Hoon, T. B. (2012). ESL learners' perception and attitudes towards the use of podcast in developing listening skills. *The English Teacher, 41*(2), 160-173. search.ebscohost.com

Hashemi, M. (2011). Language stress and anxiety among the English language learners. *Social and Behavioral Sciences*, *30*, 1811-1816. https://doi.org/10.1016/j.sbspro.2011.10.349

Hashlamoun, N. A., & Daouk, L. (2019). Exploring the teaching experiences of teachers using computer-based assessments when teaching interactive multimedia classes. *International Conference on Cognitiion and Exploratory Learning in Digital Age*, 126-136. https://doi.org/10.33965/celda2019_201911l016

Heil, C. R., Lee, J. J., & Wu, J. S. (2016). A review of mobile language learning applications: trends, challenges and opportunities. *The EUROCALL Review, 24*(2), 32-50. https://doi.org/10.4995/eurocall.2016.6402

Hennessy, S., Harrison, D., & Wamakote, L. (2010). Teacher factors influencing classroom use of ICT in Sub-Saharan Africa. *Itupale Online Journal of African Studies*, 39-54. https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.458.6035&rep=rep1&type=pdf

Hilliard , J., Kear, K., Donelan, H., & Heaney, C. (2020). Students' experiences of anxiety in an assessed, online, collaborative project. *Computers and Education, 143*, 1-31. https://doi.org/10.1016/j.compedu.2019.103675

Hopkyns, S., & Nicoll, T. (2014, February 31). *Using avatars for digital role-playing to enhance fluency in the classroom*. https://www.researchgate.net/publication/289125692_Using_avatars_for_digital_role-playing_to_enhance_fluency_in_the_classroom/link/56894eb308ae1975839a951b/download

Hornack, A. M. (2011). Technology Integration Matrix. *Technology integrated teaching and learning*, 1-8. https://bit. ly/2wOh4jx.

Howlett, K. M., Mysore, A. R., Allred, J., & Beck, D. (2019). An English Learner Service-learning Project: Preparing Education Majors Using Technology and the SAMR

Model. *Computer Assisted Language Learning Electronic Journal 20*(2), 128-149. http://callej.org/

Hui-Ya, C. (2016). Mobile assisted language learning APPs for the chinese classroom. *Journal of Technology and Chinese Language Teaching*, 113-119. http://www.tclt.us/journal/

Isaacs, S. (2007). ICT in Education in South Africa. *Survey of ICT and education in Africa: South African country Report*, 1-29. https://doi.org/10.4018/978-1-59904-057-8.ch009

Islam, N., Beer, M., & Slack, F. (2015). E-learning challenges faced by academics in Higher Education. *Journal of Education and Training Studies, 3*(5), 102-112. https://doi.org/10.11114/jets.v3i5.947

Jackson, B. C. (2013). *Teachers' Preparation Needs for Integrating T echnology in the Classroom.* Missouri Baptist University: UMI Dissertations.

Jacobson-Lundeberg, V. (2016). Pedagogical Implementation of 21st Century Skills. *Educational Leadership and Administration*, 82-100. https://www.emerald.com/insight/publication/issn/0957-8234

John, V. (2012, 04 12). *iPads bring new attitude to learning at schools.* Mail & Guardian. https://mg.co.za/article/2012-04-02-ipads-bring-new-attitude-to-learning-at-schools

Johnson, A. M., Jacovina, M. E., Russell, D. G., & Soto, C. M. (2016). Challenges and solutions when using technologies in the classroom. *Adaptive educational technologies for literacy instruction*, 13-29.

Jokiaho, A., May, B., Specht, M., & Stoyanov, S. (2018). Barriers to using E-learning in an advanced way. *International journal of advanced corporate learning (iJAC, 11*(1), 17-22. https://doi.org/10.3991/ijac.v11i1.9235

Jude, T. L., Kajura, A. M., & Birevu, P. M. (2014). Adoption of the SAMR Model to asses ICT Pedagogical adoption: A case of Makerere University. *International journal of e-Education, e-Business, e-Management and e-Learning, 4*(2), 106-115. https://cees.mak.ac.ug/sites/default/files/312-CZ607_Muyinda.pdf

Kaufman, K. J. (2013). 21 Ways to 21st Century Skills: Why Students Need Them and Ideas for Practical Implementation. *Kappa Delta Pi Record, 49*(2), 78-83. https://doi.org/10.1080/00228958.2013.786594

Kaumba, M., Mphahlele, R. S., Muleya, G., & Simui, F. (2021). Disablers and enablers in the uptake of information communication technologies in rural primary schools of Mwinilinga District, Zambia. *Journal of Educational Technology & Online Learning, 4*(1), 1-10. https://dergipark.org.tr/en/pub/jetol/issue/60134/791306

Kay , D., & Kibble, J. (2016). Learning theories 101: application to everyday teaching and scholarship. *Adv Physiol Educ, 40*, 17-25. doi:doi:10.1152/advan.00132.2015.

Kent, D. (2019). Plickers and the Pedagogical practicality of fast formative assessment. *Teaching English with Technology, 19*(3), 90-104. https://www.ceeol.com/search/article-detail?id=787035

Krause, J. M., O'Neil, K., & Dauenhauer, B. (2017). Plickers: A Formative Assessment Tool for K-12 and PETE Professionals. *Strategies, 30*(3), 30-36. https://doi.org/10.1080/08924562.2017.1297751

Kukulska-Hulme , A., Lee, H., & Norris, L. (2017). Mobile Learning Revolution: Implications for Language Pedagogy. In C. A. Chapelle, *The Handbook of Technology and Second Language Teaching and Learning* (pp. 217-233). Wiley & Sons,.

Kustijono, R., & Zuhri, F. (2018). The use of Facebook and WhatsApp application in learning process of Physics to train students' critical thinking skills. *Materials Science and Engineering, 296*(1), 1-7 https://iopscience.iop.org/article/10.1088/1757-899X/296/1/012025/meta

Lee, J., & Kim, S. (2015). Validation of a Tool Evaluattion Educational Apps for Smart Education. *Journal of Educational Computing Research, 52*(3), 435-450. https://doi.org/10.1177%2F0735633115571923

Letseka, M., Letseka, M., & Pitsoe, V. (2018). The Challenges of E-learning in South Africa. *Trends in E-learning*, 121-138. https://doi.org/10.5772/intechopen.74843

Lewis, A. C. (2009). *The integration of interactive whiteboards into classrooms at a wellresourced high school in South Africa.*(Doctoral Dissertation, University of University of Pretoria). https://doi.org/10.5204/thesis.eprints.118066

Lieberoth, A., & Wang, A. I. (2016). The effect of points and audio on concentration, engagement, enjoyment, learning, motivation and classroom dynamics using Kahoot! In *European conference on games based learning* (Vol. 20). Academic Conferences International Limited.

Loan, T. T. (2019). Using Facebook as a tool to improve writing skills for tertiary students. *Proceedings of ELT upgrades: A focus on methodology, 1*(1), 209-217. https://doi.org/10.5281/zenodo.3591860.

Loh, C., Wong, D. H., Quazi, A., & Kingshott, R. P. (2016). Re-examining students' perception of e-learning: an Australian perspective. *International Journal of Educational Management, 30*(1), 1-20. https://www.emerald.com/insight/content/doi/10.1108/IJEM-08-2014-0114/full/html?fullSc=1

Luef, E. M., Ghebru, B., & Ilon, L. (2018). Apps for language learning: their use across different languages in a Korean context. *Interactive Learing Enviroments, 28*(8), 1-12. https://doi.org/10.1080/10494820.2018.1558255

Mahaye, N. E. (2020). The Impact of COVID-19 Pandemic on South African Education : Navigating Forward the Pedagogy of Blended Learning. *Research Online, 2020.*

Mahlangu, K. S. (2015). *The growth and development of isindebele orthography and spelling (1921-2010).* (Doctoral Dissereation, University of Pretoria, Pretoria).

Maree, K. (2015). *First steps in research 2.* Van Schaik publishers.

Mashile, T. Z. (2016). Technology integration and the digital divide: Understanding factors that impact on educators' ability to integrate technology in South African classrooms. *Capgemini Consulting, The Digital Talent Gap*, 1-132. https://doi.org/10.4314/sajhe.v16i1.25289

Mathison , C., & Billings, E. (2011). I get to use an iPod in school?Using technology-based advance organizers to support the academic success of English Learners. *Journal of Science Education Technology, 21*(4), 494-503. https://link.springer.com/article/10.1007%2Fs10956-011-9341-0

Mbunge, E. (2020). Effects of COVID-19 in South African health system and society: An explanatory study. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 14*(6), 1809-1814. https://doi.org/10.1016/j.dsx.2020.09.016

McQuiggan, S., Kosturko, L., McQuiggan, J., & Sabourin, J. (2015). *Mobile learning: A handbook for developers, educators, and learners.* Hoboken: NJ: John Wiley & Sons.

Mihai, M. (2017). Success factors and challenges of an Information Communication Technology network in rural schools. *Successes and challenges of ICT network, 14*(1), 1-22. https://doi.org/10.1080/18146627.2016.1224569

Miranti, M. G., & Wilujeng, B. Y. (2018). Creative thinking skills enhancement using ming mapping. In *1st International Conference on Social, Applied Science and Technology in Home Economics (ICONHOMECS 2017) Creative, 112*, 39-42. http://creativecommons.org/licenses/by-nc/4.0/

Moghavvemi, S., Sulaiman, A., Jaafar, N. I., & Kasem, N. (2018). Social media as a complementary learning tool for teaching and learning: The case of YouTube. *The International Journal of Management Education, 16*(1), 37-42. https://doi.org/10.1016/j.ijme.2017.12.001

Mohamed, J. B., & Narayanasamy, F. S. (2013). Adaptation of Mobile Learning in Higher Educational Institutions of Saudi Arabia. *International Journal of Computer Applications, 69*(6), 34-38. https://doi.org/10.1.1.403.7387&rep=rep1&type=pdf

Msiza, G. M., Malatji, K. S., & Mphahlele, L. K. (2020). Implementation of an e-learning project in Tshwane South District:Towards a Paperless classroom in South African Secondary School. *The Electronic Journal of e-learning, 18*(4), 300-310. https://doi.org/10.34190/EJEL.20.18.4.003

Mustafa, N. H., Hussein, N. H., & Zulkifle, N. F. (2018). Exploring students' perceptions of English KAHOOT module for basic learners in UMK. *International Conference on Ummah ICU 2018, 31 October – 1 November, Kelantan, MALAYSIA*

Mwakapina, J. W., Mhandeni, A. S., & Nyinondi, O. S. (2016). WhatsApp Mobile Tool in Second Language Learning: Opportunities, Potentials and Challenges in Higher Education Settings in Tanzania. *International Journal of English Language Education, 4*(2), 70-90. https://doi.org/10.5296/ijele.v4i2.9711

Mwanza, A. J., Molepo, J. M., & Goduka, N. (2018). Addressing the digital literacy gap in the use of Information and Communication Technologies in the dessemination of Indigenous knowledge: A rural community experience. *African Journal of Indigenous Knowledge Systems, 17*(2), 154-166. https://hdl.handle.net/10520/EJC-1395320ed5

Nacak, A., Baglama, B., & Demir, B. (2020, 03). Teacher Candidate Views on the use of YouTube for Educational purposes. *Online Journal of communication and Media Technologies, 10*(2), 1-9. https://doi.org/10.29333/ojcmt/7827

Ngesi, N., Landa, N., Madikiza, N., Cekiso, M. P., Tshotsho, B., & Walters, L. M. (2018). Use of mobile phones as supplementary teaching and learning tools to learners in South Africa. *Journal of the Reading Association of South Africa, 9*(1), 1-12. https://doi.org/10.4102/rw.v9i1.190

November, A. (2010). *Empowering students with technology.* Sage.

Ojo, O. A., & Adu, E. O. (2018). The effectiveness of Information and Communication Technologies (ICTs) in teaching and learning in high schools in Eastern Cape Province. *South African Journal of Education, 38*(1), 1-11. https://doi.org/10.15700/saje.v38ns2a1483

Ortlipp, M. (2008). Keeping and using reflective journals in the qualitative research process. *The Qualitative Report, 13*(4), 1-13. https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.474.4860&rep=rep1&type=pdf

Ozdamli, F., & Ozdal, H. (2018). Developing an instructional design for the design of infographics and the evaluation of infographic usage in teaching based on teacher and student opinions. *EURASIA Journal of Mathematics, Science and Technology Education, 14*(4), 1197-1219. https://doi.org/10.29333/ejmste/81868

Park, Y. (2011). A Pedagogical Framework for Mobile learning: Categorizing Educational Applications of Mobile Technologies into Four types. *International Review of Research in Open and Distance learning, 12*(2), 78-102. / https://doi.org/10.19173/irrodl.v12i2.791

Paul, R., & Elder, L. (2014). *Critical thinking.* Pearson Education.

Pennington , R. C. (2010). Computer-assisted instruction for teaching academic skills to students with Autism Spectrum Disorders: A review of literature. *Focus on Autism and Other Developmental Disabilities, 25*(4), 239-248. https://doi.org/10.1177%2F1088357610378291

Pezzino, M. (2018). Online assessment, adaptive feedback and the importance of visual learning for students. The advantages, with a few caveats, of using MapleTA. *International review of economics education, 28*, 11-28. https://doi.org/10.1016/j.iree.2018.03.002

Ploog, B. O., Scharf, A., Nelson, D., & Brooks, P. J. (2013). Use of computer-assisted technology (CAT) to enhance social, communicative, and language development in children with Autism Spectrum disorders. *Journal of Autism and Development Disorders*, 301-322. https://doi.org/10.1007/s10803-012-1571-3

Prescott, J., Stodart, M., Becket, G., & Wilson, S. (2015). The Experience of using Facebook as an Educational tool. *Health and Social Care Education, 1*(5), 1-5. https://www.tandfonline.com/doi/full/10.11120/hsce.2013.00033

Preston, J. P., Moffatt, L., Wiebe, S., McAuley, A., Campbell, B., & Gabriel, M. (2015). The use of technology in Prince Edward Island (Canada) high schools: Perceptions of school leaders. *Educational Management Administration & leadership, 43*(6), 989-1005. https://doi.org/10.1177%2F1741143214535747

Prieto, J. (2016). Accomodating students different learning styles with the use of technology. California State University, Monterey Bay. *Capstone Projects and Master's Theses, 35*. https://digitalcommons.csumb.edu/caps_thes_all/35

Puentedura, R. R. (2006, November 28). *Transformation, technology, and education in the state of Maine*. [Web log post] http://www.hippasus.com/rrpweblog/archives/2006_11.html

Puentedura, R. R. (2013, May 29). *SAMR: Moving from enhancement to transformation*. [Web log post] http://www.hippasus.com/rrpweblog/archives/000095.html

Purwani, F., & Rukun, K. (2017). A review of cload learning management system (CLMS) based on software as a service(SaaS). *International Conference on Electrical Engineering and Informatics (ICELTICs).*, 205-210. doi:https://doi.org/10.1109/ICELTICS.2017.8253261

Redempta, K., & Elizabeth, M. (2012). An E-Learning Approach to Secondary School Education: E-Readiness Implications in Kenya. *Journal of Education and Practice, 3*(16), 142-148. https://www.iiste.org/Journals/index.php/JEP

Republic of South Africa. (1996). The Constitution of the Republic of South Africa Act No. 108 of 1996. In *Government Gazette* (pp. 150-340).

Rolfe, A., & Cheek, B. (2012). Seven major learning styles-Which one are you? *Learning styles*(7), 176-181. https://doi.org/10.1093/innovait/inr239

Romrell, D., Kidder, L. C., & Wood, E. (2016). The SAMR Model as a Framework for Evaluating mlearning. *Idaho State University, 18*(2), 1-15. https://www.learntechlib.org/p/183753/

Rosell-Aguilar, F. (2017). State of the App: A Taxonomy and Framework for Evaluating Language Learning Mobile Applications. *Calico journal, 34*(2), 243-258. https://www.jstor.org/stable/90014690

Rosell-Aguilar, F. (2018). Autonomous language learning through a mobile application: a user evaluation of the busuu app. *Computer Assisted Language Learning, 31*(8), 854-881. https://doi.org/10.1080/09588221.2018.1456465

Rosenberg, M. (2002). *The Four C's of success: Culture, champions, communication and change.* (A. Rossett, Ed.) McGraw-Hill.

Saine, P. (2012). iPods, iPads, and the Smartboard: Transforming literacy instruction and student learning. *New England Reading Association Journal, 47*(2), 74-79. https://www.researchgate.net/publication/297734409_New_England_Reading_Association_Journal

Sanderson, P. E. (2002). E-Learning: strategies for delivering knowledge in the digital age. *The internet and higher education, 41*(5), 185-188. https://doi.org/10.1002/pfi.4140410512

Shaykina, O. I. (2015). Blended learning in English language teaching: Open educational resources used for academic purposes in Tomsk Polytechnic University. *Mediterranean Journal of Social Sciences, 6*(3), 255-260. http://dx.doi.org/10.5901/mjss.2015.v6n3s5p255

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*(2), 63-75. https://doi.org/10.3233/EFI-2004-22201

Sheppard, A. L., & Wolffsohn, J. S. (2018). Digital eye strain: prevalence, measurement and amelioration. *BMJ Open Ophthalmology, 3*(1), 1-10. http://dx.doi.org/10.1136/bmjophth-2018-000146

Siddiq, F., Scherer, R., & Tondeur, J. (2015). Teachers' emphasis on developinf students' digital information and communication skills(TEDDICS): A new construct in 21st century education. *Computers and Education, 92*, 1-46. https://doi.org/10.1016/j.compedu.2015.10.006

Slavin, R. E., Hurley , E. A., & Chamberlain, A. (2013). Cooperative learning and achievement: Theory and research. In W. M. Reynolds, G. E. Miller, & I. B. Weiner, *Handbook of psychology* (pp. 177-198). John Wiley & Sons, Inc.

Smith, B., & Mader, J. (2015, February 20). *Formative Assessment with Online Tools.* https://doi.org/10.2505/4/tst15_082_04_10

Soraya, D. U., Smaragdina, A. A., & Nidhom, A. M. (2018). developing gamification learing models for vocation schools to enhance programming skills and motivation. *Advances In Social Sciences, Education And Humanities Research*, 242, 274-277. https://doi.org/10.2991/icovet-18.2019.66

Srivastava, P. (2018). Advantages & Disadvantages of E-Education & E-Learning. *National research & Journal publication, 2*(3), 22-27. http://www.nrjp.co.in/

Tetard, F., & Patokorpi, E. (2008). A Theoretical Framework for Mobile Learning and E-Inclusion in Finland. *ICIS 2008 Proceedings*, 52. . https://aisel.aisnet.org/icis2008/52

Thomson, S. (2017, July 30). E-learning design and development. [Blog] https://elearningindustry.com/5-useful-elearning-tools-must-know

Torres, K. M., & Giddie, L. (2020). Educator Perceptions and Use of Technology in South African Schools. *Peabody Journal of Education, 95*(2), 117-126. doi:https://doi.org/10.1080/0161956X.2020.1745611

Trilling, B., & Fadel, C. (2009). *21st century skill: Learning for life in our times.* San Francisco: Josssey-Bass.

Umunadi, K. E. (2011). Provision of equipment and facilities in vocational and technical education for improving carrying capacity of Nigeria's tertiary institution. In *1st International Technology, Education and Environment Conference* (p. 331) .

Van Horne, S., Henze, M., Schuh, K. L., Colvin, C., & Russell, J.-E. (2017). Facilitating adoption of an interactive e-textbook among university students in a large, introductory biology course. *Journal of Computing in High Education, 29*(3), 477-495. https://link.springer.com/article/10.1007/s12528-017-9153-1

Van Laar, E., Van Deursen, A. J., Van Dijk, J. A., & De Haan, J. (2017). The relation between 21st-century skills and digital skills: Asystematic literature review. *Computers in Human Behavior, 72*, 577-588. doi:https://doi.org/10.1016/j.chb.2017.03.010

Vincent, T. (2012, March 04). *Ways to evaluate educational apps*. [Web log post] http://learninginhand.com/blog/ways-to-evaluate-educational-apps.html

Wan Husin, W. N., Mohamad Arsad, N., Othman, O., Halim, L., Rasul, M. S., Osman, K., & Iksan, Z. (2016). Fostering students' 21st century skills through Project Oriented Problem Based Learning (POPBL) in integrated STEM education program. *Asia-Pacific Forum on Science Learning and Teaching, 17*(1), 1-18. https://www.eduhk.hk/apfslt/download/v17_issue1_files/fadzilah.pdf

Wang, A. I. (2015). The wear out effect of a game-based student response system. *Computers and Education, 82*(1), 217-227. doi:https://doi.org/10.1016/j.compedu.2014.11.004

Wang, A. I., & Tahir, R. (2020). The effect of using Kahoot! for learning- A literature review. *Computers and Education, 149*, 1-22. doi:https://doi.org/10.1016/j.compedu.2020.103818

Wang, B.-T. (2017). Designing Mobile Apps for English Vocabulary Learning. *International Journal of Information and Education Technology, 7*(4), 1-5. https://doi.org/10.18178/ijiet.2017.7.4.881

Weber, R. P. (1990). *Basic content analysis.* Sage publications.

Willingham, D. T. (2009). *Why don't students like school: because the mind is not designed for thinking.* Spring: American educator.

World Bank. (2020, March 16). *Remote learning and COVID-19.* https://doi.org/10.1596/33479

Yin, R. K. (2009). Case Study Research Design and Methods. *Applied Social Research Methods Series, 5*, 3-57.

Zhang, D., Zhao, J. L., Zhou, L., & Nunamaker, J. F. (2004). Can e-learning replace classroom learning. *Communications of the ACM, 47*(5), 74-79. doi:https://doi.org/10.1145/986213.986216

Zhong, B. L., Luo, W., Li, H. M., Zhang, Q. Q., Liu, X. G., Li, W. T., & Li, Y. (2020). Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey. *International Journal of Biological Science, 16*(10), 1745-1752. https://doi.org/10.7150/ijbs.45221

Appendices

To evaluate the appropriateness of the selected e-learning tools for the purpose of teaching IsiNdebele in a rural secondary school context, the study used the great app checklist (Appendix A), an evaluation tool for instructional function (Appendix B) and an observers' interview (Appendix E). The challenges experienced by rural IsiNdebele teachers when they integrate the selected e-learning tools into their lesson plans were gathered using the lesson plan (Appendix C), observers' interview (Appendix E) and journal reflections (Appendix F). Lessons learned during the implementation of the selected e-learning tools in the IsiNdebele classroom were captured through learners' written questionnaires (Appendix D), journal reflections (Appendix F), and observers' interviews (Appendix E).

6.1 Appendix A: The great App checklist

The Great App Checklist

The following checklist is designed to guide educators through the process of determining if the app they have chosen is good for their purposes, in their classroom.

Purpose		**Privacy**	
Does this app meet my needs, as an educator, for the lesson at hand?		Does the app have a privacy policy?	
Alignment		Is student data kept private, and not shared?	
Does it fit into my school's standards?		Is student data stored and maintained in a responsible manner?	
Does it relate to the curriculum?		**App Citizenship**	
Is it leveled appropriately for my students?		Is the app priced reasonably, or free?	
Pedagogically-based		Does my school's network support use of this app?	
Does the app provide appropriate and immediate feedback?		Is the size of the app appropriate?	
Does it facilitate higher order thinking skills?		Does it provide support for lesson plan integration?	
Does it provide an authentic experience?		Is the app updated frequently?	
Does it facilitate collaboration?		Is the app ad free?	
Is it engaging to use?		**Access**	
Personalization		Is the app available on the necessary platforms?	
Does the app enable student account?		Does it adhere to accessibility guidelines?	
Does it offer a different experience for students based on internet?		Does it accommodate English language learners?	
Does the app allow for differentiation and customization of learning?		Is language support necessary and available?	
Sharing		**Ease of use**	
Can work be exported or shared on social media?		Is the app well designed and engaging?	
Can I see reports of my students' usage?		Is navigation logical and simple?	
Does the work live on the cloud?		Does the app offer intuitive support?	

(Vincent, 2012)

Lesson number 1: Media Player

The Great App Checklist

The following checklist is designed to guide educators through the process of determining if the app they have chosen is good for their purposes, in their classroom.

Purpose		**Privacy**	
Does this app meet my needs, as an educator, for the lesson at hand?	√	Does the app have a privacy policy?	√
Alignment		Is student data kept private, and not shared?	√
Does it fit into my school's standards?	√	Is student data stored and maintained in a responsible manner?	√
Does it relate to the curriculum?	√	**App Citizenship**	
Is it levelled appropriately for my students?	√	Is the app priced reasonably, or free?	√
Pedagogically-based		Does my school's network support use of this app?	√
Does the app provide appropriate and immediate feedback?		Is the size of the app appropriate?	√
Does it facilitate higher order thinking skills?		Does it provide support for lesson plan integration?	√
Does it provide an authentic experience?	√	Is the app updated frequently?	√
Does it facilitate collaboration?		Is the app ad free?	
Is it engaging to use?	√	**Access**	
Personalization		Is the app available on the necessary platforms?	√
Does the app enable student account?		Does it adhere to accessibility guidelines?	√
Does it offer a different experience for students based on Internet?		Does it accommodate English language learners?	√
Does the app allow for differentiation and customization of learning?	√	Is language support necessary and available?	√
Sharing		**Ease of use**	
Can work be exported or shared on social media?	√	Is the app well designed and engaging?	√
Can I see reports of my students' usage?		Is navigation logical and simple?	√
Does the work live on the cloud?	√	Does the app offer intuitive support?	√

(Vincent, 2012)

Lesson number 2: Microsoft Word

The Great App Checklist

The following checklist is designed to guide educators through the process of determining if the app they have chosen is good for their purposes, in their classroom.

Purpose		**Privacy**	
Does this app meet my needs, as an educator, for the lesson at hand?	√	Does the app have a privacy policy?	√
Alignment		Is student data kept private, and not shared?	√
Does it fit into my school's standards?	√	Is student data stored and maintained in a responsible manner?	√
Does it relate to the curriculum?	√	**App Citizenship**	
Is it levelled appropriately for my students?	√	Is the app priced reasonably, or free?	√
Pedagogically-based		Does my school's network support use of this app?	√
Does the app provide appropriate and immediate feedback?		Is the size of the app appropriate?	√
Does it facilitate higher order thinking skills?	√	Does it provide support for lesson plan integration?	√
Does it provide an authentic experience?	√	Is the app updated frequently?	√
Does it facilitate collaboration?	√	Is the app ad free?	
Is it engaging to use?	√	**Access**	
Personalization		Is the app available on the necessary platforms?	√
Does the app enable student account?	√	Does it adhere to accessibility guidelines?	√
Does it offer a different experience for students based on Internet?	√	Does it accommodate English language learners?	√
Does the app allow for differentiation and customization of learning?	√	Is language support necessary and available?	√
Sharing		**Ease of use**	
Can work be exported or shared on social media?	√	Is the app well designed and engaging?	√
Can I see reports of my students' usage?		Is navigation logical and simple?	√
Does the work live on the cloud?	√	Does the app offer intuitive support?	√

(Vincent, 2012)

Lesson number 3: Microsoft PowerPoint and Microsoft Excel

The Great App Checklist

The following checklist is designed to guide educators through the process of determining if the app they have chosen is good for their purposes, in their classroom.

Purpose		**Privacy**	
Does this app meet my needs, as an educator, for the lesson at hand?	√	Does the app have a privacy policy?	√
Alignment		Is student data kept private, and not shared?	√
Does it fit into my school's standards?	√	Is student data stored and maintained in a responsible manner?	√
Does it relate to the curriculum?	√	**App Citizenship**	
Is it levelled appropriately for my students?	√	Is the app priced reasonably, or free?	√
Pedagogically-based		Does my school's network support use of this app?	√
Does the app provide appropriate and immediate feedback?	√	Is the size of the app appropriate?	√
Does it facilitate higher order thinking skills?	√	Does it provide support for lesson plan integration?	√
Does it provide an authentic experience?	√	Is the app updated frequently?	
Does it facilitate collaboration?	√	Is the app ad free?	√
Is it engaging to use?	√	**Access**	
Personalization		Is the app available on the necessary platforms?	√
Does the app enable student account?		Does it adhere to accessibility guidelines?	√
Does it offer a different experience for students based on Internet?		Does it accommodate English language learners?	√
Does the app allow for differentiation and customization of learning?		Is language support necessary and available?	
Sharing		**Ease of use**	
Can work be exported or shared on social media?	√	Is the app well designed and engaging?	√
Can I see reports of my students' usage?	√	Is navigation logical and simple?	√
Does the work live on the cloud?		Does the app offer intuitive support?	

(Vincent, 2012)

Lesson number 4: Facebook Page

The Great App Checklist

The following checklist is designed to guide educators through the process of determining if the app they have chosen is good for their purposes, in their classroom.

Purpose		**Privacy**	
Does this app meet my needs, as an educator, for the lesson at hand?	√	Does the app have a privacy policy?	√
Alignment		Is student data kept private, and not shared?	√
Does it fit into my school's standards?	√	Is student data stored and maintained in a responsible manner?	√
Does it relate to the curriculum?	√	**App Citizenship**	
Is it levelled appropriately for my students?	√	Is the app priced reasonably, or free?	√
Pedagogically-based		Does my school's network support use of this app?	√
Does the app provide appropriate and immediate feedback?		Is the size of the app appropriate?	√
Does it facilitate higher order thinking skills?	√	Does it provide support for lesson plan integration?	√
Does it provide an authentic experience?	√	Is the app updated frequently?	√
Does it facilitate collaboration?	√	Is the app ad free?	
Is it engaging to use?	√	**Access**	
Personalization		Is the app available on the necessary platforms?	√
Does the app enable student account?	√	Does it adhere to accessibility guidelines?	√
Does it offer a different experience for students based on Internet?	√	Does it accommodate English language learners?	√
Does the app allow for differentiation and customization of learning?	√	Is language support necessary and available?	√
Sharing		**Ease of use**	
Can work be exported or shared on social media?	√	Is the app well designed and engaging?	√
Can I see reports of my students' usage?	√	Is navigation logical and simple?	√
Does the work live on the cloud?	√	Does the app offer intuitive support?	√

(Vincent, 2012)

6.2 Appendix B: Evaluation tool for instructional function

E-learning tool name: _____

Instructional function: _____

Link: _____

Evaluation date: _____

a. Describe the activities in the site	
Evaluation of each software:	
Look and feel	
Adhering to the principles of the type of software	
Type of activities	
User instructions/ brief examples	
Cognitive process	
Collaboration or socio-cognitive process	
Feedback options	
Control over the presentation rate	
Positive aspects	
Limitations	

E-learning tool name: **YouTube**

Instructional function: Tutorials

Link: https://youtu.be/s7FGW7DZBoM

Evaluation date: 19/10/2020

a. Describe the activities in the site	YouTube, is a social platform where you can upload videos or watch videos of someone or something. As a user you can either like, share and comment on other peoples' videos. As a video-sharing website, is usually used to search for music videos, comedy shows, how to guides, recipes and educational videos.
Evaluation of each software:	
Look and feel	YouTube has videos that you can forward, pause and rewind; search engine; sign in account; like, share, save and comment button. It is easy to use
Adhering to the principles of the type of software	It aligns with the syllabus and the curriculum, since educators have been uploading educational videos to the website, for learners to watch at home or anywhere.
Type of activities	It's a video-sharing website, where you can upload your video or watch someone else's video. It has a search engine, which searches and identifies items upload to the database that correspond to the keyword specified by the user. It allows videos to be uploaded to the public or privately. Viewers can share, like or comment on the video they watching.
User instructions/ brief examples	None
Cognitive process	Learners develop planning, judging and remembering skills, as they get to sit down and watch an educational video of a particular topic. Thereafter, being assessed on what they have watched and heard on that particular video.
Collaboration or socio-cognitive process	It allows learners to create their own videos in groups and individuals. Which help learners to develop collective decision making skills.
Feedback options	It does offer feedback in a form of comments and creates a platform where many people can comment further depending on your uploading settings.
Control over the presentation rate	YouTube can be used effectively with all the grades from senior phase to FET. Since it has control settings or restricted mode to avoid learners watching inappropriate videos.
Positive aspects	You can choose to who can see the video you want to upload. You can choose to open the comment section or close it. And you can also share thoughts under the comments section.
Limitations	You need Internet to access the website.

E-learning tool name: **Media Player**

Instructional function: Tutorials

Link:

Evaluation date: 19/10/2020

a. Describe the activities in the site	The media player is a software program used to play multimedia computer files e.g. audio and videos such as mp3 songs, video clips, or movies. It displays standard media control icons such as play, pause, fast-forwards, rewind, and stop buttons.
b. Evaluation of each software:	
Look and feel	Media Player has the following features forward, pause and rewind. It is easy to use
Adhering to the principles of the type of software	It aligns with the syllabus and the curriculum, since educators can decide which educational video to play and how long it should be. Learners can save the video and watch it at home or anywhere.
Type of activities	It's a video-sharing software where you can play your own video or watch someone else's video. It allows the user to burn CDs, organize their multimedia collection, rip CD tracks to MP3 or other audio formats, play songs and movies, listen to internet radio, stream content from the internet and download content from online music store
User instructions/ brief examples	None
Cognitive process	Learners develop planning, judging and remembering skills, as they get to sit down and watch an educational video of a particular topic. Thereafter, being assessed on what they have watched and heard on that particular video.
Collaboration or socio-cognitive process	It allows learners to create their own videos in groups and individuals. Which help learners to develop collective decision making skills.
Feedback options	It does not offer feedback. Though the teacher can integrate the media player in a way that it offers corrections to a class activity.
Control over the presentation rate	Media Player can be used effectively with all the grades from senior phase to FET. Since it has parental control features. Where a parent/ teacher can enable the parental control to selected the rating according to the age of the learner. This can be done to avoid learners watching inappropriate videos.
Positive aspects	You do not need internet data to use this software.
Limitations	It lacks comment section where learners can give their view about the video.

E-learning tool name: **GoConqr**

Instructional function: Drill-and-practice

Link: https://www.goconqr.com/

Evaluation date: 20/10/2020

a. Describe the activities in the site	GoConqr is a web-app, where teachers and learners can create, save, and share Mind maps, quizzes, flashcards and notes.
Evaluation of each software:	
Look and feel	Go comer allow the user to create a login account, upload pictures, audios and videos to create Mind maps, quizzes, flashcards and notes. It is colourful and playful.
Adhering to the principles of the type of software	The software was developed for educational purposes. So it does align with the curriculum.
Type of activities	It create, save, and share Mind maps, quizzes, flashcards and notes.
User instructions/ brief examples	It has limited user instructions and a number of already made products.
Cognitive process	It allows learners to be creative and innovative to how they acquire knowledge and skills.
Collaboration or socio-cognitive process	Learners can collaboratively work on Mind maps and share their Mind maps, flashcards and notes with each other. So to correct each other or add on something that was not included.
Feedback options	The quizzes has an immediate feedback to leaners. Work sharing also help learners judge or correct each other.
Control over the presentation rate	Go comer can be used with all the grades (k-12).
Positive aspects	Teachers can create practice quiz tests and send to learners. Learners are able to create Mind maps, flashcards and notes, then save or share them with peers. Learners can also create quizzes to quiz each other. It has a built in calendar or a planner. And the quizzes, Mind maps, flashcards and notes can be published on social platforms such as Facebook, Twitter, LinkedIn and many more.
Limitations	Though it is a free web-app it required Internet data to operate.

E-learning tool name: **Microsoft Word**

Instructional function: Drill-and-practice

Link:

Evaluation date: 20/10/2020

a. Describe the activities in the site	Microsoft Word is a graphical word processing program developed by Microsoft and forms part of the Office Suite.
c. Evaluation of each software:	
Look and feel	Microsoft Word allows users to type, save, share, print, manipulate and format a text-based document
Adhering to the principles of the type of software	The software was developed for educational purposes. So it does align with the curriculum.
Type of activities	It has lot of tools such as type text, italicize text, underline text, bold text, change font, insert multimedia, create different types of documents, save, and share.
User instructions/ brief examples	It has limited user instructions and templets of different products.
Cognitive process	It allows learners to be creative and innovative to how they acquire knowledge and skills.
Collaboration or socio-cognitive process	Learners can collaboratively create mind maps, flashcards and notes with each other and be able to share them, provide you have Internet. So to correct each other or add on something that was not included.
Feedback options	There is no feedback option. Though if integrated correctly, work sharing also help learners judge or correct each other.
Control over the presentation rate	Microsoft Word can be used with all the grades (k-12).
Positive aspects	Teachers can summaries notes and include multimedia such as pictures and links to more information on that particular concept and send to learners. Learners are able to create mind maps, flashcards and notes also, then save or share them with peers.
Limitations	Microsoft Word is free app, though requires internet data to share documents or have another sharing app to be able to share documents with other people.

E-learning tool name: **Microsoft Excel**

Instructional function: Instructional Game

Link: https://96436075-b74f-4b9f-8e84-35149fe82d9d.filesusr.com/ugd/4d9afe_b4c4b1f4e3df4de8ac6a062cfc7ce344.xlsx?dn=Excel%20Test%202.xlsx

Evaluation date: 21/10/2020

a. Describe the activities in the site	It is a spreadsheet program that you can use to make sense of your data using its features and formulas. It is used to store, organize and track data. It is able to do sums, averages, totals other more calculations.
Evaluation of each software:	
Look and feel	It is a spreadsheet with columns and rows which makes a cell at each intersection of a column and a row. It mostly contains numbers, graphs and characters.
Adhering to the principles of the type of software	The software can be used in senior phase and FET grades because of its content fits the high grades syllabus. There's nothing much that a teacher can do with the lower grades using the software.
Type of activities	In this case activities includes choosing the correct answer from the given options to match the given sentence or question. Give feedback at the end of the test. Microsoft Excel also have calculations activities, arranging data, record data, chart data and concisely present fiscal results.
User instructions/ brief examples	None
Cognitive process	It promotes the learners' thinking skills intellectual ability and also promotes problem solving skills.
Collaboration or socio-cognitive process	The spreadsheet can be uploaded to different social medias for other learners to take the same test. Learners can also create their own tests or activities to assess each other in class or at home.
Feedback options	It provides immediate feedback.
Control over the presentation rate	With clear instructions learners will be able to control the mouse to choose correct answers in the activity.
Positive aspects	Free Interactive teachers and learners can create quizzes and share them amongst each other.
Limitations	There is no log in account required to personalise work. It doesn't have user instructions on how to use it.

E-learning tool name: **Facebook page**

Instructional function: Drill-and-practice

Link: https://u13302940.wixsite.com/umdlalo

Evaluation date: 22/10/2020

a. Describe the activities in the site	Facebook is an online social media and social networking service website. Then a Facebook page in Facebook is a public profile created specifically for brands, businesses, causes, celebrities, and other organizations. Facebook pages are created to updates users with statuses, events, links, videos and photos. The user can also upload documents, pictures, games, videos and audios. The uploaded information appears on the Facebook page and also on the fans' personal news feeds.
b. Evaluation of each software:	
Look and feel	It offers the user a huge content to work with, such as news feed, fans, likes and reactions, comments, notifications, notes, Facebook questions, photos, videos(live streaming and controversial use) and security settings.
Adhering to the principles of the type of software	It is aligned with principles as it offers learners a chance to download, upload and comment on educational materials. Learners are able to store their educational material to be able to come back and use it for revision.
Type of activities	Learners can download past materials such as question papers, quizzes, videos and documents and upload them on the Facebook page for sharing and revision. Learners can upload their own materials to be accessed by other learners from the same class or other schools. Learners can comment and share views. Comment section can be controlled by the teacher.
User instructions/ brief examples	It has few instructions on how to use.
Cognitive process	Learners develop logic and reasoning skills. They are motivated to be critical thinkers as to what they can create that help other learners revising a particular topic.
Collaboration or socio-cognitive process	The comment section allows learners to interact with each other's and share views. Learners learn more from their peers in this case than from the teacher. It creates learner-learner dialogue, which encourage learners to do research and read more to have compelling arguments.
Feedback options	None
Control over the presentation rate	It can be used with all the grades. The software is aligned with the syllabus and curriculum as websites are being use more than before in our daily lives.
Positive aspects	It is very interactive as learners have a platform to comment and share views.
Limitations	It is free though it require Internet data to operate.

6.3 Appendix C: Lesson plan template

Lesson plan number: ☐

Lesson Planning Form

1. SUBJECT: ……

1.1. TYPE OF LESSON:

(Tick the relevant box)

- ☐ Theory
- ☐ Experimental/laboratory
- ☐ Field work/practical
- ☐ Application
- ☐ Other (*Specify*): ……

1.2. DATE:

y	y	y	y	m	m	d	d

1.3. GRADE:

(*Indicate with an X on the appropriate box)*

RR	R	1	2	3	4	5	6	7	8	9	10	11	12

1.4. LENGTH OF PERIOD: …….. minutes

1.5. NUMBER OF LEARNERS: ……

1.6. TOPIC (from CAPS): - ……...

2. KNOWLEDGE AREA (ONLY for Foundation Phase):

(Tick the relevant boxes)

Language, e.g.	**Mathematics, e.g.**	**Life skills, e.g.**
❑ Listening and speaking	❑ Numbers, operations, relationships	❑ Beginning knowledge (Natural Science, Social Science, Scientific processes, Technological process skills)
❑ Reading and phonics	❑ Patterns, functions, algebra	❑ Physical education
❑ Writing and hand writing		

❑ Language structure and use ❑ Creative writing	❑ Space and shape (Geometry) ❑ Measurement ❑ Data handling	❑ Personal and social well-being ❑ Creative arts (Dance, Drama, Music, Visual Art)

1. INTEGRATION WITH OTHER SUBJECTS: *(How does this lesson integrate with other subjects for cross-curricular teaching?)*

4. PRESCRIBED OUTCOMES: *(from CAPS)*

4.1. GENERAL AIMS:

*(List as many as are **applicable**, but rather concentrate on one or two for a lesson)*

The National Curriculum Statement (NCS) aims to produce learners who are able to (choose from CAPS (2011), page 4/5, section 1.3 (d)):

4.1.1.

4.1.2.

4.2. SPECIFIC AIMS: *(List all the applicable aims that you wish to achieve through this lesson, from CAPS, approximately pp. 8–10)):* **4.2.1.**	**4.2 INTEGRATED SKILL(S):** (*If your subject is a **LANGUAGE,** indicate which of the four SKILLS, i.e. reading, writing, listening and/or speaking, you will focus on in this lesson, **from CAPS**):*

4.2.2.	☐ Reading ☐ Listening ☐ Writing ☐ Speaking

4.3. TOPICS:

Paste a copy of the applicable topics page you will deal with in this lesson, ***directly from CAPS****.*

Ensure that you indicate the topic for this lesson in colour by highlighting, using a different colour, etc.

4.4 LESSON OUTCOME(S):

Formulate the lesson outcome(s) yourself, in your own words, ***as full sentence(s),*** *based on the prescribed aims and topics/skills from CAPS (on the previous page) by completing the following sentences****:***

4.4.1. At the start of this lesson the learners should already know… and can do…

(state existing knowledge, skills and values)

4.4.2. By the end of the lesson the learners should be able to…

(state new knowledge, skills and values)

4.5 BRAINSTORMING AREA:

(Use this area for rough planning and brainstorming on ideas for your lesson

5. TEACHER'S THEORETICAL APPROACH

5. 1. Learning theory/theories and paradigm/s (also called frameworks)

(I believe that the learners will best achieve the lesson outcomes via… Indicate which learning theory and its related paradigm you chose. Also show how you will navigate among these theories and paradigms for the different phases and stages of the lesson)

Learning theory		***Paradigm/framework***		
☐	Behaviourism	☐	Transmission	**Justify your choice(s)**: *(because…)*
☐	Cognitivism	☐	Transaction	

☐	Constructivism	☐	Transformation	
☐	Connectivism	☐	Transcendental	
☐				

5.2. Multiple intelligences *(I addressed during this lesson…)*

☐	Auditory/Musical/Rhythmic	☐	Interpersonal	☐	Combination: *(List them)* _____ _____ _____ ___
☐	Visual/Spatial	☐	Intrapersonal		
☐	Verbal/Linguistic	☐	Logical/Mathematical		
☐	Kinaesthetic/Bodily	☐	Naturalistic		

Justify your choice(s): *(because…)*

5.3. TEACHING STRATEGIES AND TECHNIQUES *(I used… to meet the lesson outcomes. Indicate how your choices here in 5.3 link to your choices in 5.1)*

❑ Direct instruction (transmission): ❑ Question and answer ❑ Explanations ❑ Theory/model	❑ Guided discovery: ❑ Inquiry-based learning ❑ Cooperative learning ❑ Pair work	❑ Solving real life challenges (no guidance)	❑ Combination: *(Specify)* _____ _____	❑ Other: *(Specify)* _____ _____

❑ Drill work	❑ Small group work ❑ Role-play		_____ _____	_____ _____

Justify your choice(s):

6. EVIDENCE OF LEARNING (*Indicate your assessment strategies)*

6.1 Assessment instrument	**6.2 Purpose**	**6.3 Method of assessment**
1. Portfolio ❑ Observation ❑ Worksheet ❑ Rubrics ❑ Tests ❑ Journal ❑ Project / assignment ❑ Other (specify):	❑ Baseline ❑ Formative ❑ Summative	*(The lesson will be assessed by…)* ❑ Self ❑ Peer ❑ Educator ❑ Expert/s ❑ Parent ❑ Other educator/s
Justify your choice(s):	**Justify your choice(s)**:	**Justify your choice(s)**:

7. LESSON PHASES:

7.1 THEME (Context; big idea):

(What theme will you use to contextualise your lesson, link it to learners' real world and introduce your topic? Give your theme a short and inspiring name, e.g. "Friendships", "Our amazing planet" or "Holiday destinations")

7.2 INTRODUCTION (Time allocated …….min)

(Capture attention, create learning atmosphere, teacher-learner dialogue, and awaken prior knowledge. Explain how you will use your theme in 7.1 to introduce the lesson)

7.3 DEVELOPMENT (Time allocated …….min)

(Continue teacher-learner dialogue to start with new knowledge, learner-centred activities, applicable content, consider questions to guide learners towards critical thinking, show sequence of teaching events, scaffolding activities, etc.):

7.4 CONSOLIDATION (Time allocated …….min)

(Consider ways to ascertain that learners have achieved the outcomes, recapping of main teaching points, assessment, wrap up):

8. CLASSROOM MANAGEMENT

(E.g. encouragement rather than control; climate of trust; responsibility in group work; etc.)

Include: *discipline measures*

9. LEARNER ENRICHMENT

(What measures are in place for gifted learners?)

10. LEARNER SUPPORT

(What measures are in place if a learner has special educational needs?)

Include: *curriculum differentiation*

11. LTSMs (Educational media)

(Name LTSMs used in lesson and reference ALL your resources under Bibliography/List of references. Pay attention to the variety, relevance, effectiveness and applicability of the LTSM you selected for the lesson).

11.1

11.2

11.3

12. Bibliography (abridged Harvard method) of All sources consulted

(E.g. Smit, L. 2011. *Teaching.* Pretoria: Van Schaik*)*

13. REFLECTION OF LESSON PRESENTED

(NB: Please note that this section can only be completed AFTER the critique lesson has been presented and/or AFTER reflection with the assessor)

Use the following reflection questions as a guide to …

A. Write a narrative essay reflection on your lesson. **OR** B. Answer all the questions with full sentences.

Reflection questions:

1. What did I pay attention to during my planning that contributed to the success of my lesson?
2. What did I overlook or forget to pay attention to?
3. Did my introduction grab the learners' attention and link the new knowledge to their everyday lives?
4. Did my **introduction** progress according to my expectations; what could I have done differently?
5. Did my **lesson** progress according to my expectations?
6. What difficulties did I encounter during my lesson; what could I have done differently?
7. How did I establish whether, and to what extent, learners had achieved the lesson outcomes?
8. What did I do well and what could I improve on?

Lesson plan number:	1

Lesson Planning Form

1. SUBJECT: IsiNdebele Home Language

1.1. TYPE OF LESSON:

(Tick the relevant box)

X	Theory
	Experimental/laboratory
	Field work/practical
	Application
	Other (*Specify*): ……

1.2. DATE:

2	0	2	0	1	0	1	9

1.3. GRADE:

(*Indicate with an X on the appropriate box)*

R R	R	1	2	3	4	5	6	7	8	9	10	11 X	12

1.4. LENGTH OF PERIOD: _60_ minutes

1.5. NUMBER OF LEARNERS: 20

1.6. TOPIC (from CAPS): Umdlalo Isakhiwnana(Dramatic structure)

2. KNOWLEDGE AREA (ONLY for Foundation Phase):

(Tick the relevant boxes)

Language, e.g.	**Mathematics, e.g.**	**Life skills, e.g.**
❑ Listening and speaking	❑ Numbers, operations, relationships	❑ Beginning knowledge (Natural Science, Social Science, Scientific processes, Technological process skills)
❑ Reading and phonics	❑ Patterns, functions, algebra	❑ Physical education
❑ Writing and hand writing	❑ Space and shape (Geometry)	❑ Personal and social well-being
❑ Language structure and use	❑ Measurement	❑ Creative arts (Dance, Drama, Music, Visual Art)

❑ Creative writing ❑ Data handling

3. INTEGRATION WITH OTHER SUBJECTS: *(How does this lesson integrate with other subjects for cross-curricular teaching?)*

The lesson integrates with English, since the terminologies that will be used in today's topic can be translated to English for co-switching and better understanding. It will also be integrated to Technology and Mathematical literacy on teaching topics like Assembling an object or a structure of a house. Since, the lesson will reveal a structure of a drama from the introduction up the ending.

4. PRESCRIBED OUTCOMES: *(from CAPS)*

4.1. GENERAL AIMS:

*(List as many as are **applicable**, but rather concentrate on one or two for a lesson)*

The National Curriculum Statement (NCS) aims to produce learners who are able to (choose from CAPS (2011), page 4/5, section 1.3 (d)):

- Work effectively as individuals and with others as members of a team;
- Organise and manage themselves and their activities responsibly and effectively;
- Collect, analyse, organise and critically evaluate information;
- Communicate effectively using visual, symbolic and/or language skills in various modes
- Demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation.

4.2. SPECIFIC AIMS:

(List all the applicable aims that you wish to achieve through this lesson, from CAPS, approximately pp. 8–10)):

- Collect, analyse, organise and critically evaluate information;
- Communicate effectively using visual, symbolic and/or language skills in various modes

4.2 INTEGRATED SKILL(S):(*If your subject is a **LANGUAGE,** indicate which of the four SKILLS, i.e. reading, writing, listening and/or speaking, you will focus on in this lesson, **from CAPS**):*

X	Reading	X	Listening
X	Writing	X	Speaking

4.3. TOPICS:

*Paste a copy of the applicable topics page you will deal with in this lesson, **directly from CAPS**.*

Ensure that you indicate the topic for this lesson in colour by highlighting, using a different colour, etc.

IGREYIDI 11 ITHEMU 3			
Iimveke	**Ukulalela nokukhuluma**	**Ukufunda nokubukela**	**Ukutlola nokwethula**
37 neya 38	**Iforamu/isiqhema/ Ikulumiswano yephaneli:** • Amatshwayo nemithetjhwana yetheksthi • Ukusebenzisa imithetjhwana Isikhathi: I-iri-li-1	**Ukulungiselela iinhlahlubo** **Ukusetjenziswa kwelimi ebujameni obuthileko** • Isifundo sokuzwisisa • Ukurhunyeza • Izakhi nemithetjhwana yoku- setjenziswa kwelimi **Zemitlolo** • Inovela / Ubukghwari bomlomo	**Ukulungiselela iinhlahlubo Ukutlola nokwethula:** Ama-Eseyi Amatheksthi wokuthintana

4.4 LESSON OUTCOME(S):

*Formulate the lesson outcome(s) yourself, in your own words, **as full sentence(s),** based on the prescribed aims and topics/skills from CAPS (on the previous page) by completing the following sentences**:***

4.4.1. At the start of this lesson the learners should already know… and can do…

(state existing knowledge, skills and values)

Learners should already know what a drama is and have read the prescribed drama book. Learners should be able to describe or explain what they have read from the prescribed drama book and differentiate a written drama from other writings (e.g. Novel, Poems and short stories). Learners can value each other's different opinions on what they have learned.

4.4.2. By the end of the lesson the learners should be able to…

(state new knowledge, skills and values)

- **Knowledge**

1. Learners should be able to Dramatic structure
2. Be able to define the levels in the dramatic structure

- **Skills**

3. Be able to determine the levels of the dramatic structure from the prescribe book that they read.
4. Be able to write the correct language and spelling.

- **Values**

5. Honestly avoid common errors
6. Help each other and learn something from the theme
7. Co-operation and sharing knowledge

4.5 BRAINSTORMING AREA:

(Use this area for rough planning and brainstorming on ideas for your lesson

1. **Knowledge**
   - Learners should be able to define the Dramatic structure
   - Be able to define the levels in the dramatic structure

Practical demonstration

A video from YouTube will be played in class, where learners will listen attentively and be free to take notes. The video will be explaining the dramatic structure or a structure of a drama from the general perspective and also give skills on how to determine the levels of the dramatic structure using specific events from the book learners read in the previous year.

2. **Skills**
   - Be able to determine the levels of the dramatic structure from the prescribe book that they read.
   - Be able to write the correct language and spelling.

Practical demonstration

After learners have watched the YouTube video, there will be given a hardcopy of set of questions to answer about what they have learned from the YouTube video. The questions will concentrate on what is the dramatic structure? What are the levels of the dramatic structure? Based on the prescribe drama book determines events that show the specific levels of the dramatic structure.

Learners will do the activity individually with a specific amount of time. Thereafter, as a class discussion will mark the activity by watching the video again. Then, discuss the answers by raising hands to answer each question and take the decision on each question to whether the answer brought forward is right, wrong or needs to be fix.

3. **Values**
   - Honestly avoid common errors
   - Help each other and learn something from the theme

- Co-operation and sharing knowledge

Practical demonstration

The class discussion promotes learner-learner interaction which let learners collaborate in learning a new thing. That helps learners cooperate, help each other and share knowledges to accommodate all learners' different learning abilities. By always reminding learners to write clear and neat to avoid common errors.

5. TEACHER'S THEORETICAL APPROACH

5. 1. Learning theory/theories and paradigm/s (also called frameworks)

(I believe that the learners will best achieve the lesson outcomes via… Indicate which learning theory and its related paradigm you chose. Also show how you will navigate among these theories and paradigms for the different phases and stages of the lesson)

Learning theory ***Paradigm/framework***

	Behaviourism	X	Transmission	**Justify your choice(s): *(because…)***
X	Cognitivism		Transaction	I personally think when information is linked to the foundation information the learners have, it makes it easy for them to understand and Learners learn better from their peers, many enjoy discussing the views to share knowledge and understanding.
	Constructivism		Transformation	
	Connectivism		Transcendental	

5.2. Multiple intelligences *(I addressed during this lesson…)*

X	Auditory/Musical/Rhythmic	X	Interpersonal		Combination: *(List them)* _____ _____ _____ ___
X	Visual/Spatial	X	Intrapersonal		
X	Verbal/Linguistic		Logical/Mathematical		
	Kinaesthetic/Bodily		Naturalistic		

Justify your choice(s): *(because…)*

- Auditory and Visual - learners learn best from information that they can see, read or hear. In this lesson learners are able to see and hear the information that they will be watching in the video.
- Verbal and Interpersonal- learners enjoy engaging in learning experiences in a social setting which include discussion. The lesson is designed to influence learners to think out loud by discussing their answers to find the correct ones.
- Intrapersonal- The individual activity, allows the learner to think on their own and be able to reflect on what they have learned.

5.3. TEACHING STRATEGIES AND TECHNIQUES *(I used… to meet the lesson outcomes. Indicate how your choices here in 5.3 link to your choices in 5.1)*

❑ Direct instruction (transmission): ❑ Question and answer ❑ Explanations ❑ Theory/model ❑ Drill work	❑ Guided discovery: ❑ Inquiry-based learning ❑ Cooperative learning ❑ Pair work ❑ Small group work ❑ Role-play	❑ Solving real life challenges (no guidance)	❑ Combination: *(Specify)* _____ _____ _____ _____	❑ Other: *(Specify)* _____ _____ _____ _____

Justify your choice(s):

I believe that learners learn well in a cooperative class, where learners share views on their own understand and assist those left behind to understand also or give each other a big picture of what was presented to them.

6. EVIDENCE OF LEARNING (*Indicate your assessment strategies)*

6.1 Assessment instrument	**6.2 Purpose**	**6.3 Method of assessment**
❑ Portfolio ❑ Observation ❑ Worksheet ❑ Rubrics ❑ Tests ❑ Journal ❑ Project / assignment ❑ Other (specify):	❑ Baseline ❑ Formative ❑ Summative	*(The lesson will be assessed by…)* ❑ Self ❑ Peer ❑ Educator ❑ Expert/s ❑ Parent ❑ Other educator/s
Justify your choice(s): • Portfolio - of all classwork and homework activities, for continuous assessment.	**Justify your choice(s)**: • Formative assessment is constant feedback to learners, particularly with regard to learners learning processes. • Learners are able to see their progress with the activities done in class.	**Justify your choice(s)**: • Learners will assess themselves to see their mistakes or misunderstanding. • Thereafter, I will assess them to make sure the outcomes are met by collecting their classwork books to check the class activity and its corrections.

7. LESSON PHASES:

7.1 THEME (Context; big idea):

(What theme will you use to contextualise your lesson, link it to learners' real world and introduce your topic? Give your theme a short and inspiring name, e.g. "Friendships", "Our amazing planet" or "Holiday destinations")

- Building a house

7.2 INTRODUCTION (Time allocated 10 min)

(Capture attention, create learning atmosphere, teacher-learner dialogue, and awaken prior knowledge. Explain how you will use your theme in 7.1 to introduce the lesson)

- A teacher will connect a laptop to an data projector in class.
- Then show learners how they can use a link/url given to them to access videos or any material from the Internet.
- She will use a link of a video on YouTube that she wants the learners to watch in class and answer certain questions formulated based on the video.
- https://youtu.be/s7FGW7DZBoM

7.3 DEVELOPMENT (Time allocated 30 min)

(Continue teacher-learner dialogue to start with new knowledge, learner-centred activities, applicable content, consider questions to guide learners towards critical thinking, show sequence of teaching events, scaffolding activities, etc.):

- Learners will then watch the video of 5 minutes.
- Thereafter, questions will be given to them in a hardcopy to answer them in writing in their class activity books.

7.4 CONSOLIDATION (Time allocated 20 min)

(Consider ways to ascertain that learners have achieved the outcomes, recapping of main teaching points, assessment, wrap up):

- As part of remedial/corrections the teacher will repeat the steps of how to access material from the Internet using a link.
- Then repeat the video and together with the learners answer the questions in a group discussion where learners raise hands to answer the question and we discuss whether the answer suits the question or not.
- Thereafter she will show them how this video was posted on YouTube step by step.

8. CLASSROOM MANAGEMENT

(E.g. encouragement rather than control; climate of trust; responsibility in group work; etc.)

Include: *discipline measures*

- Elect a classroom representatives to monitor behaviour.
- Create class rules with the learners so that they will be responsible for their own behaviour**.**
- Select extra activities to do if the learner misbehave. It can be a homework or work in the school garden, as part of a punishment.

9. LEARNER ENRICHMENT

(What measures are in place for gifted learners?)

- By making sure that the topic relate to the children's daily life.
- Provide as many activities as possible to challenge learners.
- Have class discussions to help each other understand. By choosing any learner to answer the question and if the answer is wrong the whole class forfeit. That will motivate learners to help each other

10. LEARNER SUPPORT

(What measures are in place if a learner has special educational needs?)

Include: *curriculum differentiation*

- Integrate the topic with other subjects or other learning areas or content
- Learn learners' individual learning style and make sure I cater for everyone, so that every learner find interest in the topic
- Use of educational media to compare and improve understanding. Organise the content in a logical form using chunking method.

11. LTSMs (Educational media)

(Name LTSMs used in lesson and reference ALL your resources under Bibliography/List of references. Pay attention to the variety, relevance, effectiveness and applicability of the LTSM you selected for the lesson).

11.1 Ngingewakabani drama book

11.2 Internet

12. Bibliography (abridged Harvard method) of All sources consulted

(E.g. Smit, L. 2011. *Teaching.* Pretoria: Van Schaik*)*

13. REFLECTION OF LESSON PRESENTED

(NB: Please note that this section can only be completed AFTER the critique lesson has been presented and/or AFTER reflection with the assessor)

Use the following reflection questions as a guide to …

B. Write a narrative essay reflection on your lesson. **OR** B. Answer all the questions with full sentences.

Reflection questions:

9. What did I pay attention to during my planning that contributed to the success of my lesson?
10. What did I overlook or forget to pay attention to?
11. Did my introduction grab the learners' attention and link the new knowledge to their everyday lives?
12. Did my **introduction** progress according to my expectations; what could I have done differently?
13. Did my **lesson** progress according to my expectations?
14. What difficulties did I encounter during my lesson; what could I have done differently?
15. How did I establish whether, and to what extent, learners had achieved the lesson outcomes?
16. What did I do well and what could I improve on?

Lesson plan number: 2

Lesson Planning Form

1. SUBJECT: IsiNdebele Home Language

1.1. TYPE OF LESSON:

(Tick the relevant box)

X	Theory
	Experimental/laboratory
	Field work/practical
	Application
	Other (*Specify*): ……

1.2. DATE:

2	0	2	0	1	0	2	0

1.3. GRADE:

(*Indicate with an X on the appropriate box)*

RR	R	1	2	3	4	5	6	7	8	9	10	11 X	12

1.4. LENGTH OF PERIOD: _60_ minutes

1.5. NUMBER OF LEARNERS: 20

1.6. TOPIC (from CAPS): Umdlalo Isizinda (drama setting)

2. KNOWLEDGE AREA (ONLY for Foundation Phase):

(Tick the relevant boxes)

Language, e.g.	**Mathematics, e.g.**	**Life skills, e.g.**
❑ Listening and speaking ❑ Reading and phonics ❑ Writing and hand writing ❑ Language structure and use ❑ Creative writing	❑ Numbers, operations, relationships ❑ Patterns, functions, algebra ❑ Space and shape (Geometry) ❑ Measurement ❑ Data handling	❑ Beginning knowledge (Natural Science, Social Science, Scientific processes, Technological process skills) ❑ Physical education ❑ Personal and social well-being ❑ Creative arts (Dance, Drama, Music, Visual Art)

4. INTEGRATION WITH OTHER SUBJECTS: *(How does this lesson integrate with other subjects for cross-curricular teaching?)*

The lesson integrates with English, since the terminologies that will be used in today's topic can be translated to English for co-switching and better understanding. The lesson will also be integrated to art and culture and history. The topic involves the historical time and events taken from the prescribe book and learners get a chance to showcase understanding in a visual representation as it is done in art and culture with portraits.

4. PRESCRIBED OUTCOMES: *(from CAPS)*

4.1. GENERAL AIMS:

*(List as many as are **applicable**, but rather concentrate on one or two for a lesson)*

The National Curriculum Statement (NCS) aims to produce learners who are able to (choose from CAPS (2011), page 4/5, section 1.3 (d)):

- Identify and solve problems and make decisions using critical and creative thinking
- Work effectively as individuals and with others as members of a team;
- Organise and manage themselves and their activities responsibly and effectively;
- Collect, analyse, organise and critically evaluate information;
- Communicate effectively using visual, symbolic and/or language skills in various modes
- Demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation.

4.2. SPECIFIC AIMS:

(List all the applicable aims that you wish to achieve through this lesson, from CAPS, approximately pp. 8–10)):

- Work effectively as individuals and with others as members of a team;
- Collect, analyse, organise and critically evaluate information;
- Communicate effectively using visual, symbolic and/or language skills in various modes

4.2 INTEGRATED SKILL(S):(*If your subject is a **LANGUAGE,** indicate which of the four SKILLS, i.e. reading, writing, listening and/or speaking, you will focus on in this lesson, **from CAPS**):*

	Reading	X	Listening
X	Writing	X	Speaking

4.3. TOPICS:

Paste a copy of the applicable topics page you will deal with in this lesson, ***directly from CAPS****.*

Ensure that you indicate the topic for this lesson in colour by highlighting, using a different colour, etc.

IGREYIDI 11 ITHEMU 3			
Iimveke	**Ukulalela nokukhuluma**	**Ukufunda nokubukela**	**Ukutlola nokwethula**
37 neya 38	**Iforamu/isiqhema/ Ikulumiswano yephaneli:** • Amatshwayo nemithetjhwana yetheksthi • Ukusebenzisa imithetjhwana Isikhathi: I-iri-li-1	**Ukulungiselela iinhlahlubo** **Ukusetjenziswa kwelimi ebujameni obuthileko** • Isifundo sokuzwisisa • Ukurhunyeza • Izakhi nemithetjhwana yoku- setjenziswa kwelimi **Zemitlolo** • Inovela / Ubukghwari bomlomo	**Ukulungiselela iinhlahlubo Ukutlola nokwethula:** Ama-Eseyi Amatheksthi wokuthintana

4.4 LESSON OUTCOME(S):

Formulate the lesson outcome(s) yourself, in your own words, ***as full sentence(s),*** *based on the prescribed aims and topics/skills from CAPS (on the previous page) by completing the following sentences****:***

4.4.1. At the start of this lesson the learners should already know… and can do…

(state existing knowledge, skills and values)

- Learners should already know what a drama setting is.

- Learners should be able to define the drama settings' subtopics
- They should have read the prescribed drama book.
- Learners should be able to describe or explain what they have read from the prescribed drama book
- And value each other's different opinions on what they have learned.

4.4.2. By the end of the lesson the learners should be able to…

(state new knowledge, skills and values)

- **Knowledge**

8. Learners should be able to define the 3 elements of a drama setting.

- **Skills**

9. Be able to identify the 3 elements of the drama setting from the prescribe book.
10. Be able to identify the 3 elements of the drama setting in any drama they can read.

- **Values**

11. Help each other and learn from each other.
12. Co-operation and sharing knowledge

4.5 BRAINSTORMING AREA:

(Use this area for rough planning and brainstorming on ideas for your lesson

1. **Knowledge**
   - Learners should be able to define the 3 elements of a drama setting.

Practical demonstration

I will teach learners what is a drama setting, building from what learners have learned in previous year to a new knowledge of the 3 different elements of a drama setting.

2. **Skills**
   - Be able to identify the 3 elements of the drama setting from the prescribe book.
   - Be able to identify the 3 elements of the drama setting in any drama they can read.

Practical demonstration

I will continue to explain how to identify the drama setting elements in a drama book by giving specific events of a drama book that they all read in the previous year as an example. Thereafter, in pairs learners will be given a class activity where they will be given each element of the drama setting to represent it in a Mind map. They are expected to identify events that explains the certain drama setting element they have chosen. Learners will then be given a chance to share their Mind map with the rest of the class and give a brief explanation of their findings.

3. **Values**
   - Help each other and learn from each other
   - Co-operation and sharing knowledge

Practical demonstration

When learners share their work with the rest of the class, helps them to learn from each other. Plus doing the work in pairs promotes cooperation and sharing of knowledge.

5. TEACHER'S THEORETICAL APPROACH

5. 1. Learning theory/theories and paradigm/s (also called frameworks)

(I believe that the learners will best achieve the lesson outcomes via… Indicate which learning theory and its related paradigm you chose. Also show how you will navigate among these theories and paradigms for the different phases and stages of the lesson)

Learning theory ***Paradigm/framework***

	Behaviourism		Transmission	**Justify your choice(s): *(because…)***
	Cognitivism		Transaction	Constructivism as learning theory requires transactional (contextualism) and social collaboration (relativism) as teaching frameworks. Social constructivism, aims at using prior knowledge of the learners to build a new knowledge by using integrating topics and related objects such as Mind maps. I think learners will best grasp a concept if it relates to their daily life and also if they can learn from each other or in an interactive way.
X	Constructivism	X	Transformation	
	Connectivism		Transcendental	

5.2. Multiple intelligences *(I addressed during this lesson…)*

	Auditory/Musical/Rhythmic	X	Interpersonal		Combination: *(List them)* _____ _____ _____ ___
X	Visual/Spatial		Intrapersonal		
X	Verbal/Linguistic		Logical/Mathematical		
	Kinaesthetic/Bodily		Naturalistic		

Justify your choice(s): *(because…)*

- Visual/Spatial- learners learn best from information that they see or read, by making a Mind map together with the learners using an data projector and a laptop helps learners to always refer to the screen for rereading, spelling and be able to classify the elements.
- Verbal and Interpersonal- learners enjoy engaging in learning experiences in a social setting. In this lesson we have the class discussion and peer work which encourages cooperation and sharing of information.

5.3. TEACHING STRATEGIES AND TECHNIQUES *(I used… to meet the lesson outcomes. Indicate how your choices here in 5.3 link to your choices in 5.1)*

❑ Direct instruction (transmission): ❑ Question and answer ❑ Explanations ❑ Theory/model ❑ Drill work	❑ Guided discovery: ❑ Inquiry-based learning ❑ Cooperative learning ❑ Pair work ❑ Small group work ❑ Role-play	❑ Solving real life challenges (no guidance)	❑ Combination: *(Specify)* _____ _____ _____ _____	❑ Other: *(Specify)* _____ _____ _____ _____

Justify your choice(s):

In most cases learners learn bests from their peers and it creates relationships where learners can help each other, for examples gifted learners will help slow learners to understand too in their respective pair/groups.

6. EVIDENCE OF LEARNING (*Indicate your assessment strategies)*

6.1 Assessment instrument	**6.2 Purpose**	**6.3 Method of assessment**
❑ Portfolio ❑ Observation ❑ Worksheet ❑ Rubrics ❑ Tests ❑ Journal ❑ Project / assignment ❑ Other (specify):	❑ Baseline ❑ Formative ❑ Summative	*(The lesson will be assessed by…)* ❑ Self ❑ Peer ❑ Educator ❑ Expert/s ❑ Parent ❑ Other educator/s
Justify your choice(s): • Portfolio - of all classwork and homework activities, for continuous assessment.	**Justify your choice(s)**: • The lesson will be conducted with verbal questioning during the introduction, thereafter a class activity during the development and lastly, a presentation at the end of the lesson. • Formative assessment is constant feedback to learners, particularly with regard to learners learning processes.	**Justify your choice(s)**: • Peer- learners will assess themselves by presenting their answers in class and everyone will be able to correct the answers. For them to be able to see progress and understand better to rectify their mistakes • Teacher- the Mind maps will be saved as a PDF documents for the teacher to

	• Learners are able to see their progress with the activities done in class.	go through them and check if the outcomes were met.

7. LESSON PHASES:

7.1 THEME (Context; big idea):

(What theme will you use to contextualise your lesson, link it to learners' real world and introduce your topic? Give your theme a short and inspiring name, e.g. "Friendships", "Our amazing planet" or "Holiday destinations")

- **Spider web**

7.2 INTRODUCTION (Time allocated 10 min)

(Capture attention, create learning atmosphere, teacher-learner dialogue, and awaken prior knowledge. Explain how you will use your theme in 7.1 to introduce the lesson)

- To awaken prior knowledge, a link will be presented to learners to follow.
- The link will lead straight to a blank sheet of the GoConqr website.
- Learners will be expected to help each other in a class discussion making a Mind map together with the teacher of "what is a drama setting" which they have learned in the previous year.
- Learners will put up their hands to answer then if it's correct it will be added by the teacher to the Mind map, showing the learners how to use Go Congr.
- https://www.goconqr.com/

7.3 DEVELOPMENT (Time allocated 25 min)

(Continue teacher-learner dialogue to start with new knowledge, learner-centred activities, applicable content, consider questions to guide learners towards critical thinking, show sequence of teaching events, scaffolding activities, etc.):

- The teacher will then explain further from what learners know about the topic to new information using a drama book that learners read in the previous year as an example.
- She will then show learners how to create their Mind maps using GoConqr.
- In pairs, learners will design their Mind maps, with each pair having a different subtopics/ element of a drama setting.
- In this activity learners are expected to use the current prescribed drama book to show events which describes the elements of the drama setting given to them.
- https://www.goconqr.com/mind map/24708430/isizinda-somdlalo?id=24708430&locale=en-US&utm_campaign=Auto+Gen+emails&utm_medium=Email&utm_source=SendGrid

7.4 CONSOLIDATION (Time allocated 25 min)

(Consider ways to ascertain that learners have achieved the outcomes, recapping of main teaching points, assessment, wrap up):

- As an assessment, each pair will be required to share their work with the rest of the class and present their understating and findings on the subtopic given to them.

8. CLASSROOM MANAGEMENT

(E.g. encouragement rather than control; climate of trust; responsibility in group work; etc.)

Include: *discipline measures*

- Elect a classroom representatives to monitor behaviour.
- Create class rules with the learners so that they will be responsible for their own behaviour**.**
- Select extra activities to do if the learner misbehave. It can be a homework or work in the school garden, as part of a punishment.

9. LEARNER ENRICHMENT

(What measures are in place for gifted learners?)

- By making sure that the topic relate to the children's daily life.
- Provide as many activities as possible to challenge learners.
- Have class discussions to help each other understand. By choosing any learner to answer the question and if the answer is wrong the whole class forfeit. That will motivate learners to help each other

10. LEARNER SUPPORT

(What measures are in place if a learner has special educational needs?)

Include: *curriculum differentiation*

- Integrate the topic with other subjects or other learning areas or content
- Learn learners' individual learning style and make sure I cater for everyone, so that every learner find interest in the topic
- Use of educational media to compare and improve understanding. Organise the content in a logical form using chunking method.

11. LTSMs (Educational media)

(Name LTSMs used in lesson and reference ALL your resources under Bibliography/List of references. Pay attention to the variety, relevance, effectiveness and applicability of the LTSM you selected for the lesson).

11.1 Ngingewakabani drama book

11.2 Internet

12. Bibliography (abridged Harvard method) of All sources consulted

(E.g. Smit, L. 2011. *Teaching.* Pretoria: Van Schaik*)*

13. REFLECTION OF LESSON PRESENTED

(NB: Please note that this section can only be completed AFTER the critique lesson has been presented and/or AFTER reflection with the assessor)

Use the following reflection questions as a guide to …

C. Write a narrative essay reflection on your lesson. **OR** B. Answer all the questions with full sentences.

Reflection questions:

17. What did I pay attention to during my planning that contributed to the success of my lesson?
18. What did I overlook or forget to pay attention to?
19. Did my introduction grab the learners' attention and link the new knowledge to their everyday lives?
20. Did my **introduction** progress according to my expectations; what could I have done differently?
21. Did my **lesson** progress according to my expectations?
22. What difficulties did I encounter during my lesson; what could I have done differently?
23. How did I establish whether, and to what extent, learners had achieved the lesson outcomes?
24. What did I do well and what could I improve on?

Lesson plan number: 3

Lesson Planning Form

1. SUBJECT: IsiNdebele Home Language

1.1. TYPE OF LESSON:

(Tick the relevant box)

	Theory
	Experimental/laboratory
	Field work/practical
X	Application
	Other (*Specify*): ……

1.2. DATE:

2	0	2	0	1	0	2	1

1.3. GRADE:

(*Indicate with an X on the appropriate box)*

RR	R	1	2	3	4	5	6	7	8	9	10	11 X	12

1.4. LENGTH OF PERIOD: _60_ minutes

1.5. NUMBER OF LEARNERS: 20

1.6. TOPIC (from CAPS): Umdlalo Imibuzo elula (Short questions)

2. KNOWLEDGE AREA (ONLY for Foundation Phase):

(Tick the relevant boxes)

Language, e.g.

❑ Listening and speaking

❑ Reading and phonics

❑ Writing and hand writing

❑ Language structure and use

Mathematics, e.g.

❑ Numbers, operations, relationships

❑ Patterns, functions, algebra

❑ Space and shape (Geometry)

❑ Measurement

Life skills, e.g.

❑ Beginning knowledge (Natural Science, Social Science, Scientific processes, Technological process skills)

❑ Physical education

❑ Personal and social well-being

❑ Creative arts (Dance, Drama, Music, Visual Art)

❑ Creative writing ❑ Data handling

5. INTEGRATION WITH OTHER SUBJECTS: *(How does this lesson integrate with other subjects for cross-curricular teaching?)*

History-the lesson integrate with history since learners have to know what happened, where in happened who did it and why.

4. PRESCRIBED OUTCOMES: *(from CAPS)*

4.1. GENERAL AIMS:

*(List as many as are **applicable**, but rather concentrate on one or two for a lesson)*

The National Curriculum Statement (NCS) aims to produce learners who are able to (choose from CAPS (2011), page 4/5, section 1.3 (d)):

- Work effectively as individuals and with others as members of a team;
- Organise and manage themselves and their activities responsibly and effectively;
- Collect, analyse, organise and critically evaluate information;
- Communicate effectively using visual, symbolic and/or language skills in various modes
- Demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation.

4.2. SPECIFIC AIMS:

(List all the applicable aims that you wish to achieve through this lesson, from CAPS, approximately pp. 8–10)):

- Organise and manage themselves and their activities responsibly and effectively;
- Collect, analyse, organise and critically evaluate information;
- Demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation.
- Work effectively as individuals

4.2 INTEGRATED SKILL(S):(*If your subject is a **LANGUAGE,** indicate which of the four SKILLS, i.e. reading, writing, listening and/or speaking, you will focus on in this lesson, **from CAPS**):*

X	Reading		Listening
X	Writing		Speaking

4.3. TOPICS:

*Paste a copy of the applicable topics page you will deal with in this lesson, **directly from CAPS**.*

Ensure that you indicate the topic for this lesson in colour by highlighting, using a different colour, etc.

IGREYIDI 11 ITHEMU 3			
Iimveke	**Ukulalela nokukhuluma**	**Ukufunda nokubukela**	**Ukutlola nokwethula**
37 neya 38	**Iforamu/isiqhema/ Ikulumiswano yephaneli:** • Amatshwayo nemithetjhwana yetheksthi • Ukusebenzisa imithetjhwana Isikhathi: I-iri-li-1	**Ukulungiselela iinhlahlubo** **Ukusetjenziswa kwelimi ebujameni obuthileko** • Isifundo sokuzwisisa • Ukurhunyeza • Izakhi nemithetjhwana yoku- setjenziswa kwelimi **Zemitlolo** • Inovela / Ubukghwari bomlomo	**Ukulungiselela iinhlahlubo Ukutlola nokwethula:** Ama-Eseyi Amatheksthi wokuthintana

4.4 LESSON OUTCOME(S):

*Formulate the lesson outcome(s) yourself, in your own words, **as full sentence(s),** based on the prescribed aims and topics/skills from CAPS (on the previous page) by completing the following sentences**:***

4.4.1. At the start of this lesson the learners should already know… and can do…

(state existing knowledge, skills and values)

- Learners should have already read the drama book prescribed to them.

- Learners should already know how to analyse the dramatic structure and the drama setting.
- Learners should have already adapt the values of cooperating and sharing knowledge.

4.4.2. By the end of the lesson the learners should be able to…

(state new knowledge, skills and values)

- **Knowledge**

13. Learners should be able to define the words theme, genre and characters found in a drama book.
14. Learners should be able to remember all the events that they read about in the prescribe book.

- **Skills**

15. Learners should be able to identify the theme found in the prescribed drama book
16. They should be able to explain the genre of the drama book according to the events taking place in the prescribed drama book.
17. They should be able to categories the characters in the prescribed drama book according to the 5 types of characters found in a drama book.

- **Values**

18. Avoid common mistakes
19. Work effectively as an individual

4.5 BRAINSTORMING AREA:

(Use this area for rough planning and brainstorming on ideas for your lesson

1. **Knowledge**
   - Learners should be able to define the words theme, genre and characters found in a drama book.
   - Learners should be able to remember all the events that they read about in the prescribe book.

Practical demonstration

Learners will have a formative type of assessment, which will be divided into two tests. The first test, which is test 1 will be a PowerPoint assessment. Learners will download this test using the given link/url. The test will present a multiply choice questions of definitions and clues of the theme, genre and characters of a drama book. Learners are expected to choice the correct answer which will lead them to the next question and if the answer is wrong then it will take the learner to the notes to revise on the information. When the learner answers all the questions correctly, she/he will receive a link/url to the second test at the end of the test 1. Test 2 will concentrate on the prescribed book, testing the understanding of the learner after reading the book.

2. **Skills**
   - Learners should be able to identify the theme found in the prescribed drama book.
   - They should be able to explain the genre of the drama book according to the events taking place in the prescribed drama book.
   - They should be able to categories the characters in the prescribed drama book according to the 5 types of characters found in a drama book.

Practical demonstration

Test 2 is designed to assess all the skills expected at the end of the lesson. The will also be additional activities that learners can do as soon as their finish the test 2. This additional work will simply be a continuous assess of what was assessed in test 2.

3. Values

- Avoid common mistakes
- Work effectively as an individual

Practical demonstration

Learners are going to work individually in this assessment activity. Hence they are not allowed to talk to anyone so that decrease chances of learners making mistakes and improving their abilities to work effectively individually.

5. TEACHER'S THEORETICAL APPROACH

5. 1. Learning theory/theories and paradigm/s (also called frameworks)

(I believe that the learners will best achieve the lesson outcomes via… Indicate which learning theory and its related paradigm you chose. Also show how you will navigate among these theories and paradigms for the different phases and stages of the lesson)

Learning theory ***Paradigm/framework***

X	Behaviourism		Transmission	**Justify your choice(s): *(because…)***
	Cognitivism		Transaction	**It becomes easy to build understanding and knowledge in learners when they actively participate in discovering the knowledge.**
	Constructivism	X	Transformation	
	Connectivism		Transcendental	

5.2. Multiple intelligences *(I addressed during this lesson…)*

	Auditory/Musical/Rhythmic		Interpersonal		Combination: *(List them)* _____ _____ _____ ___
X	Visual/Spatial	X	Intrapersonal		
	Verbal/Linguistic	X	Logical/Mathematical		
	Kinaesthetic/Bodily		Naturalistic		

Justify your choice(s): *(because…)*

- Visual – with learners being able to see and read the information encourages spelling and proper pronunciation
- Intrapersonal- giving a learner individual work, helps to see his or her progress and enable them to reflect on their own progress.
- Logical- prepare a lesson where you will start with easy to understand problems to more difficult ones creates a lesson flow for easy understanding.

5.3. TEACHING STRATEGIES AND TECHNIQUES *(I used… to meet the lesson outcomes. Indicate how your choices here in 5.3 link to your choices in 5.1)*

❑ Direct instruction (transmission): ❑ Question and answer ❑ Explanations ❑ Theory/model ❑ Drill work	❑ Guided discovery: ❑ Inquiry-based learning ❑ Cooperative learning ❑ Pair work ❑ Small group work ❑ Role-play	❑ Solving real life challenges (no guidance)	❑ Combination: *(Specify)* _____ _____ _____ _____	❑ Other: *(Specify)* _____ _____ _____ _____

Justify your choice(s):

Socratic question and answer method is used to attract learners' attention, awaken prior knowledge to create foundation for new knowledge, and to evaluate if the expected outcomes have been reached. Solving real life challenges help them to relate class work to their everyday life and be able to acquire skills that will help them in the outside world.

6. EVIDENCE OF LEARNING (*Indicate your assessment strategies)*

6.1 Assessment instrument	6.2 Purpose	6.3 Method of assessment
❑ Portfolio ❑ Observation	❑ Baseline ❑ Formative ❑ Summative	*(The lesson will be assessed by…)* ❑ Self

❑ Worksheet ❑ Rubrics ❑ Tests ❑ Journal ❑ Project / assignment ❑ Other (specify):		❑ Peer ❑ Educator ❑ Expert/s ❑ Parent ❑ Other educator/s
Justify your choice(s): • Portfolio - of all classwork and homework activities, for continuous assessment. • Tests- tests will be designed to evaluate whether the outcomes have been reached or the is a need to repeat the topics	**Justify your choice(s)**: • Formative assessment is constant feedback to learners, particularly with regard to learners learning processes. • In this lesson, learners will have 4 different types of assessment to practice and improve performance.	**Justify your choice(s)**: • Teacher- the technological tools use to set the tests will automatically mark the tests and the teacher will collect the marks.

7. LESSON PHASES:

7.1 THEME (Context; big idea):

(What theme will you use to contextualise your lesson, link it to learners' real world and introduce your topic? Give your theme a short and inspiring name, e.g. "Friendships", "Our amazing planet" or "Holiday destinations")

- **Train race**

7.2 INTRODUCTION (Time allocated 5 min)

(Capture attention, create learning atmosphere, teacher-learner dialogue, and awaken prior knowledge. Explain how you will use your theme in 7.1 to introduce the lesson)

- To capture attention learners will be given a link to a website that contains test 1.
- Learners are required to do the first test guided by the teacher, which will be download and presented in a PowerPoint presentation.
- The test contains 5 multiple choice questions, which the learner will answer.
- If the learner gets all the questions correct he/she will get another link that will send him/her to the following test.
- No marks will be allocated for this test.

7.3 DEVELOPMENT (Time allocated 35 min)

(Continue teacher-learner dialogue to start with new knowledge, learner-centred activities, applicable content, consider questions to guide learners towards critical thinking, show sequence of teaching events, scaffolding activities, etc.):

- The learner will now do test 2 individually and without a teacher's help unless there are any technical issues.

- The learner will use the link he/she got from the previous test to access the next tests.
- Test 2: Excel, An Excel document will be downloaded by clicking on its link. A learner will be required to answer all the 5 questions and raise their hand to show that they have finish the test, so the teacher will come and collect the marks from the marking worksheet of each learner and give them a word search and crossword puzzle print outs to continue with while other learners are finishing up. The word search and the crossword puzzle games will be part of the learners' additional home activity, which also counts as part of the assessment and they will have to submit it the following day.
- Test 2
  https://96436075-b74f-4b9f-8e84-35149fe82d9d.filesusr.com/ugd/4d9afe_b4c4b1f4e3df4de8ac6a062cfc7ce344.xlsx?dn=Excel%20Test%202.xlsx
- Word search
  https://96436075-b74f-4b9f-8e84-35149fe82d9d.filesusr.com/ugd/4d9afe_a745f16ed7fa45a8915404ec09fc4b90.pdf
- Crossword puzzle
  https://96436075-b74f-4b9f-8e84-35149fe82d9d.filesusr.com/ugd/4d9afe_2eb43100c23b463bade8ab42d6e9a7d8.pdf

7.4 CONSOLIDATION (Time allocated 20 min)

(Consider ways to ascertain that learners have achieved the outcomes, recapping of main teaching points, assessment, wrap up):

- To wrap up, I will share with learners a step by step tutorial print out on how to create an assessment using a PowerPoint and Excel. Also how to create a word search, word cross puzzle, and a word cloud.

Thereafter an assignment will be given to learners to do at home individually or in groups of less than 4 members. This assignment will be given to learners as a hard copy of instructions and rubrics. Learners will be required to create or design their canvas (social media graphics, presentations, posters, and other visual content), video, or a game/assessment as part of a revision of what they learned in the past 3 lessons. The will be a list of topics from what we have done from the past 3 lessons. Learners are expected to choose one topic and create an interesting revision canvas, video, or a game/assessment that he/she thinks will be valuable for his/her peers to use when studying. Learners will submit their work a day before the following lesson through uploading it on a website (following a link to submit) that will be designed as a platform that learners can access when studying for exams. No learner will be able to see another learner's work before the day of the presentation.

8. CLASSROOM MANAGEMENT

(E.g. encouragement rather than control; climate of trust; responsibility in group work; etc.)

Include: *discipline measures*

- Elect a classroom representatives to monitor behaviour.
- Create class rules with the learners so that they will be responsible for their own behaviour**.**
- Select additional activities to do, so learners keep busy and get challenged. It can be a homework or work that prepares them for the next topic/lesson.

9. LEARNER ENRICHMENT

(What measures are in place for gifted learners?)

- By making sure that the topic relate to the children's daily life.
- Provide as many activities as possible to challenge learners.
- Have class discussions to help each other understand. By choosing any learner to answer the question and if the answer is wrong the whole class forfeit. That will motivate learners to help each other

10. LEARNER SUPPORT

(What measures are in place if a learner has special educational needs?)

Include: *curriculum differentiation*

- Integrate the topic with other subjects or other learning areas or content
- Learn learners' individual learning style and make sure I cater for everyone, so that every learner find interest in the topic
- Use of educational media to compare and improve understanding. Organise the content in a logical form using chunking method.

11. LTSMs (Educational media)

(Name LTSMs used in lesson and reference ALL your resources under Bibliography/List of references. Pay attention to the variety, relevance, effectiveness and applicability of the LTSM you selected for the lesson).

11.1 Ngingewakabani drama book

11.2 Internet

12. Bibliography (abridged Harvard method) of All sources consulted

(E.g. Smit, L. 2011. *Teaching.* Pretoria: Van Schaik*)*

13. REFLECTION OF LESSON PRESENTED

(NB: Please note that this section can only be completed AFTER the critique lesson has been presented and/or AFTER reflection with the assessor)

Use the following reflection questions as a guide to …

D. Write a narrative essay reflection on your lesson. **OR** B. Answer all the questions with full sentences.

Reflection questions:

25. What did I pay attention to during my planning that contributed to the success of my lesson?
26. What did I overlook or forget to pay attention to?
27. Did my introduction grab the learners' attention and link the new knowledge to their everyday lives?
28. Did my **introduction** progress according to my expectations; what could I have done differently?
29. Did my **lesson** progress according to my expectations?
30. What difficulties did I encounter during my lesson; what could I have done differently?
31. How did I establish whether, and to what extent, learners had achieved the lesson outcomes?
32. What did I do well and what could I improve on?

Lesson plan number:	4

Lesson Planning Form

1. SUBJECT: IsiNdebele Home Language

1.1. TYPE OF LESSON:

(Tick the relevant box)

	Theory
	Experimental/laboratory
	Field work/practical
X	Application
	Other (*Specify*): ……

1.2. DATE:

2	0	2	0	1	0	2	2

1.3. GRADE:

(*Indicate with an X on the appropriate box)*

R R	R	1	2	3	4	5	6	7	8	9	10	11 X	12

1.4. LENGTH OF PERIOD: _120_ minutes

1.5. NUMBER OF LEARNERS: 20

1.6. TOPIC (from CAPS): Umdlalo ibuyekezo (review)

2. KNOWLEDGE AREA (ONLY for Foundation Phase):

(Tick the relevant boxes)

Language, e.g.

❑ Listening and speaking

❑ Reading and phonics

❑ Writing and hand writing

❑ Language structure and use

Mathematics, e.g.

❑ Numbers, operations, relationships

❑ Patterns, functions, algebra

❑ Space and shape (Geometry)

❑ Measurement

Life skills, e.g.

❑ Beginning knowledge (Natural Science, Social Science, Scientific processes, Technological process skills)

❑ Physical education

❑ Personal and social well-being

❑ Creative arts (Dance, Drama, Music, Visual Art)

❑ Creative writing ❑ Data handling

6. INTEGRATION WITH OTHER SUBJECTS: *(How does this lesson integrate with other subjects for cross-curricular teaching?)*

The lesson integrate with Creative art, where learners get a chance to express themselves using different types of media platforms to show off their work. E.g. A paint picture or video of a poem posted on social media like Facebook school page.

4. PRESCRIBED OUTCOMES: *(from CAPS)*

4.1. GENERAL AIMS:

*(List as many as are **applicable**, but rather concentrate on one or two for a lesson)*

The National Curriculum Statement (NCS) aims to produce learners who are able to (choose from CAPS (2011), page 4/5, section 1.3 (d)):

- Work effectively as individuals and with others as members of a team;
- Organise and manage themselves and their activities responsibly and effectively;
- Collect, analyse, organise and critically evaluate information;
- Communicate effectively using visual, symbolic and/or language skills in various modes
- Demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation.

4.2. SPECIFIC AIMS:

(List all the applicable aims that you wish to achieve through this lesson, from CAPS, approximately pp. 8–10)):

- Work effectively as individuals and with others as members of a team;
- Organise and manage themselves and their activities responsibly and effectively;
- Collect, analyse, organise and critically evaluate information;

4.2 INTEGRATED SKILL(S):(*If your subject is a **LANGUAGE,** indicate which of the four SKILLS, i.e. reading, writing, listening and/or speaking, you will focus on in this lesson, **from CAPS**):*

X	Reading	X	Listening
X	Writing	X	Speaking

4.3. TOPICS:

*Paste a copy of the applicable topics page you will deal with in this lesson, **directly from CAPS**.*

Ensure that you indicate the topic for this lesson in colour by highlighting, using a different colour, etc.

IGREYIDI 11 ITHEMU 3			
Iimveke	**Ukulalela nokukhuluma**	**Ukufunda nokubukela**	**Ukutlola nokwethula**
37 neya 38	**Iforamu/isiqhema/ Ikulumiswano yephaneli:** • Amatshwayo nemithetjhwana yetheksthi • Ukusebenzisa imithetjhwana Isikhathi: I-iri-li-1	**Ukulungiselela iinhlahlubo** **Ukusetjenziswa kwelimi ebujameni obuthileko** • Isifundo sokuzwisisa • Ukurhunyeza • Izakhi nemithetjhwana yoku- setjenziswa kwelimi **Zemitlolo** • Inovela / Ubukghwari bomlomo	**Ukulungiselela iinhlahlubo Ukutlola nokwethula:** Ama-Eseyi Amatheksthi wokuthintana

4.4 LESSON OUTCOME(S):

*Formulate the lesson outcome(s) yourself, in your own words, **as full sentence(s),** based on the prescribed aims and topics/skills from CAPS (on the previous page) by completing the following sentences**:***

4.4.1. At the start of this lesson the learners should already know… and can do…

(state existing knowledge, skills and values)

- Learners should be able to define the words theme, genre and characters found in a drama book.

- Learners should be able to remember all the events that they read about in the prescribe book.
- Learners should be able to identify the theme found in the prescribed drama book
- They should be able to explain the genre of the drama book according to the events taking place in the prescribed drama book.
- They should be able to categories the characters in the prescribed drama book according to the 5 types of characters found in a drama book.
- Learners should have already adapt the values of cooperating and sharing knowledge.

4.4.2. By the end of the lesson the learners should be able to…

(state new knowledge, skills and values)

1. Knowledge

i. Learners should know characterization of the prescribed book
ii. Learners should know the role of narrator/persona/point of view in prescribed book
iii. Learners should know the theme and messages of the prescribed book
iv. Learners should understand the background and setting-relation to character and theme in the prescribed book.
v. Learners should know the dramatic structure: plot, sub-plot (exposition, rising action, and climax) used in the prescribed book.
vi. Learners should know and understand the mood and tone set in the prescribed book

- Learners should know and understand the ironic twist/ending found in the prescribed book.

2. Skills

- Learners should have research skills and presentation skills
- Be able to plan and organize content,
- Should be able to set tone and speak
- Learners should have critical awareness of language usage, choice, design and use of audio, audio-visual aids.

3. Values

- Work effectively as an individual or in a team

4.5 BRAINSTORMING AREA:

(Use this area for rough planning and brainstorming on ideas for your lesson

1. **Knowledge**

vii. Learners should know characterization of the prescribed book
viii. Learners should know the role of narrator/persona/point of view in prescribed book
ix. Learners should know the theme and messages of the prescribed book
x. Learners should understand the background and setting-relation to character and theme in the prescribed book.
xi. Learners should know the dramatic structure: plot, sub-plot (exposition, rising action, and climax) used in the prescribed book.
xii. Learners should know and understand the mood and tone set in the prescribed book
- Learners should know and understand the ironic twist/ending found in the prescribed book.

Practical demonstration

Learners will be given an assignment with a list of topics that they have done in class. The purpose of the assignment is to create an online platform that learners will use when they revise for exams and also they can share it with friends who are doing the same subject in other schools. Learners are expected to choose one topic of their choice from the assignment to design or create an interesting revision canvas (social media graphics, presentations, posters, and other visual content), video, or a game/assessment.

2. **Skills**
   - Learners should have research skills and presentation skills
   - Be able to plan and organize content,
   - Should be able to set tone and speak
   - Learners should have critical awareness of language usage, choice, design and use of audio, audio-visual aids.

Practical demonstration

The assignment will be given to learners as a hard copy with instructions and rubrics. Learners will have to use the knowledge gained in the past 3 lessons and do research of their own on the topic chosen. Learners can submit their work though uploading it on a website (following a submission link). Learners won't be able to access other learners' work until the day of presentation. Learners will follow the presentation instructions by ascending the stage when their name is called. Then tell the class the name of the canvas, video or game/assessment.

- If a learner does a video she/he must make sure everything is included in that video according to the instruction and rubric.
- If the learner chooses a canvas, she/he will be given a maximum of 3 minutes to explain the visuals shown in the canvas.
- In case of a game or assessment, a learner will present his/her game/assessment to other learners to do and the assessment questions or game missions shouldn't take longer than 5 minutes.

At the presentation the website will be accessible to the public so learners can view the canvas, videos and play games or take test to revise.

3. **Values**
   - Work effectively as an individual or in a team

Practical demonstration

Learners can choose to do the assignment individually or in a small group of less than 4 members. Learners must make a decision to work as a group or individually and stick to their decision by submitting the group

members' names before the end of the day after receiving the assignment. Thereafter, no changes will be made, learners will work as a group or individually until the end of the assignment.

5. TEACHER'S THEORETICAL APPROACH

5. 1. Learning theory/theories and paradigm/s (also called frameworks)

(I believe that the learners will best achieve the lesson outcomes via… Indicate which learning theory and its related paradigm you chose. Also show how you will navigate among these theories and paradigms for the different phases and stages of the lesson)

Learning theory ***Paradigm/framework***

	Behaviourism		Transmission	**Justify your choice(s): *(because…)***
	Cognitivism		Transaction	**In this lesson learners are required to actively participate in learning to build understanding and discover knowledge by constructing tools that will help them connect with other learners on the social network.**
	Constructivism	X	Transformation	
X	Connectivism		Transcendental	

5.2. Multiple intelligences *(I addressed during this lesson…)*

X	Auditory/Musical/Rhythmic	X	Interpersonal		Combination: *(List them)* _____ _____ _____ ___
X	Visual/Spatial	X	Intrapersonal		
X	Verbal/Linguistic		Logical/Mathematical		
	Kinaesthetic/Bodily		Naturalistic		

Justify your choice(s): *(because…)*

- Interpersonal – for learners who enjoy working in social setting choosing to be in group will be a good learning experience.
- Auditory & Visual – with learners being able to see and hear the information encourages spelling and proper pronunciation
- Intrapersonal- those learner who enjoy individual work, will also be cater for. Since they will choose to do the assignment individually. Which will helps to see his or her progress and enable them to reflect on their own progress.

5.3. TEACHING STRATEGIES AND TECHNIQUES *(I used… to meet the lesson outcomes. Indicate how your choices here in 5.3 link to your choices in 5.1)*

❑ Direct instruction (transmission): ❑ Question and answer ❑ Explanations ❑ Theory/model ❑ Drill work	❑ Guided discovery: ❑ Inquiry-based learning ❑ Cooperative learning ❑ Pair work ❑ Small group work ❑ Role-play	❑ Solving real life challenges (no guidance)	❑ Combination: *(Specify)* _____ _____ _____ _____	❑ Other: *(Specify)* _____ _____ _____ _____

Justify your choice(s):

Learners learn best from their peers, they enjoy sharing knowledge and understanding. That encourages learners to make research and read more.

6. EVIDENCE OF LEARNING (*Indicate your assessment strategies)*

6.1 Assessment instrument	6.2 Purpose	6.3 Method of assessment
❑ Portfolio ❑ Observation	❑ Baseline ❑ Formative	*(The lesson will be assessed by…)* ❑ Self

❑ Worksheet ❑ Rubrics ❑ Tests ❑ Journal ❑ Project / assignment ❑ Other (specify):	❑ Summative	❑ Peer ❑ Educator ❑ Expert/s ❑ Parent ❑ Other educator/s
Justify your choice(s): • Project/assignment- will be used to evaluate the learning outcomes of the entire chapter/ unit to be able to see whether learners are ready for the next chapter/unit.	**Justify your choice(s)**: • Formative assessment is constant feedback to learners, particularly with regard to learners learning processes.	**Justify your choice(s)**: • Teacher- I will use the rubric to mark the presentation.

7. LESSON PHASES:

7.1 THEME (Context; big idea):

(What theme will you use to contextualise your lesson, link it to learners' real world and introduce your topic? Give your theme a short and inspiring name, e.g. "Friendships", "Our amazing planet" or "Holiday destinations")

- Revision show

7.2 INTRODUCTION (Time allocated 10 min)

(Capture attention, create learning atmosphere, teacher-learner dialogue, and awaken prior knowledge. Explain how you will use your theme in 7.1 to introduce the lesson)

- To introduce the lesson, the teacher will go through the assignment that was given to the learners in the previous lesson.
- She will explain how marks will be allocated according to the rubric.
- Then give learners a chance to prepare their presentations by accessing the website where all the assignments have been uploaded to.
- Learners will also be informed to ask/comment/ discuss/ share information on the website's online discussion board instead of raising a hand during a presentation.

https://www.facebook.com/groups/758381194746870

7.3 DEVELOPMENT (Time allocated 90 min)

(Continue teacher-learner dialogue to start with new knowledge, learner-centred activities, applicable content, consider questions to guide learners towards critical thinking, show sequence of teaching events, scaffolding activities, etc.):

- Individually or in groups learners will come to the front of the class to present the prepared work which can be a video, canvas, or a game/assessment. At the start of the presentation, an individual/ group will give the audience the name of his work and in which type of tool (Knowledge construction

tool, a visualization tool, information interpretation too and dynamic modeling tool) is uploaded to, so every learner will be looking at that particular work.

- If a learner does a video she/he will have to upload a video of less than 3 minutes.
- If the learner chooses a canvas, she/he will be given a maximum of 3 minutes to explain the visuals shown in the canvas.
- In case of a game or assessment, a learner will present his/her game/assessment to other learners to do and the assessment questions or game missions shouldn't take longer than 5 minutes.

7.4 CONSOLIDATION (Time allocated 20 min)

(Consider ways to ascertain that learners have achieved the outcomes, recapping of main teaching points, assessment, wrap up):

- A teacher will give learners a chance to read out loud a few of the positive comments, negative comments, and ask questions.

8. CLASSROOM MANAGEMENT

(E.g. encouragement rather than control; climate of trust; responsibility in group work; etc.)

Include: *discipline measures*

- Elect a classroom representatives to monitor behaviour.
- Create class rules with the learners so that they will be responsible for their own behaviour**.**
- Select additional activities to do, so learners keep busy and get challenged. It can be a homework or work that prepares them for the next topic/lesson.

9. LEARNER ENRICHMENT

(What measures are in place for gifted learners?)

- By making sure that the topic relate to the children's daily life.
- Provide as many activities as possible to challenge learners.
- Have class discussions to help each other understand. By choosing any learner to answer the question and if the answer is wrong the whole class forfeit. That will motivate learners to help each other

10. LEARNER SUPPORT

(What measures are in place if a learner has special educational needs?)

Include: *curriculum differentiation*

- Integrate the topic with other subjects or other learning areas or content
- Learn learners' individual learning style and make sure I cater for everyone, so that every learner find interest in the topic
- Use of educational media to compare and improve understanding. Organise the content in a logical form using chunking method.

11. LTSMs (Educational media)

(Name LTSMs used in lesson and reference ALL your resources under Bibliography/List of references. Pay attention to the variety, relevance, effectiveness and applicability of the LTSM you selected for the lesson).

11.1 Ngingewakabani drama book

11.2 Internet

12. Bibliography (abridged Harvard method) of All sources consulted

(E.g. Smit, L. 2011. *Teaching.* Pretoria: Van Schaik*)*

13. REFLECTION OF LESSON PRESENTED

(NB: Please note that this section can only be completed AFTER the critique lesson has been presented and/or AFTER reflection with the assessor)

Use the following reflection questions as a guide to …

E. Write a narrative essay reflection on your lesson. **OR** B. Answer all the questions with full sentences.

Reflection questions:

33. What did I pay attention to during my planning that contributed to the success of my lesson?
34. What did I overlook or forget to pay attention to?
35. Did my introduction grab the learners' attention and link the new knowledge to their everyday lives?
36. Did my **introduction** progress according to my expectations; what could I have done differently?
37. Did my **lesson** progress according to my expectations?
38. What difficulties did I encounter during my lesson; what could I have done differently?
39. How did I establish whether, and to what extent, learners had achieved the lesson outcomes?
40. What did I do well and what could I improve on?

6.4 Appendix D: Learners' written questionnaire

*Data from the learner questionnaires can be provided upon request.

Lesson number:

Participant number: ____

Date: _____

E-learning tool name: _____

The rural context		
1. Which of these technology device/s are familiar or you have at home?	Smartphone	
	Tablet/iPad	
	Laptop	
	Computer	
	Television/Radio	
	Other: _____	
	None of the above	
2. How do you use this technology device/s for educational purpose?	Download educational apps	
	Download educational videos	

	Watch/listen to educational programmes	
	Share information with peers	
	Interact with peers	
	Reading	
	Complete assessment	
	Play games	
	Other:_____	
3. Which of the e-learning devices have you used in today's lesson?	Smartboard	
	Projector	
	Computer/laptop	
	Tablet/iPad	
	Smartphone	

E-learning tools	Yes	No
4. Was the e-learning tool easy to use? If No, what where the challenges:		

5. Which features did you like about the e-learning tool?		
6. Which features did you not like about the e-learning tool?		

Language learning skills		
7. Which language learning skills have you learned or improved in today's lesson	Grammar	
	Vocabulary acquisition	
	Translation activities	
	Reading and writing	
	Listening practice and listening comprehension	
	Speaking and phonological awareness	
	Verb conjugation	

21st-century skills and SAMR LEVEL	Yes	No

8. Were you able to engage in a learning activity that could have been done without the use of the e-learning tool?		
9. Did the lesson allow collaborative learning e.g. class discussion, pair work, group work or role play?		
10. Were the learning activities modified and redesigned with the use of the e-learning tool to link to your everyday experiences?		
11. During the lesson were you able to use the e-learning tool to connect the new information to past knowledge?		
12. Were you able to use the e-learning tool to set goals, plan activities, monitor progress, evaluate results or participate in learning activities that would not have been possible without an e-learning tool?		

Lesson proceedings
13. How do you think this lesson could have been made better?

Note: These are guiding questions and will be refined before the data collection.

6.5 Appendix E: Verbatim transcript interview

Lesson number: 1

Teacher position: Curriculum adviser (CA)

Date: 19 October 2020

E-learning tool name: Media Player

Masimula NL: Good day, ma'am thank you for your participation in this study and I would like to get straight to the interview questions so we can get through with this interview quickly.

Curriculum adviser (CA): Thank you; it is my pleasure to be part of this study.

Masimula NL: Ok, firstly can you list the e-learning tools you mostly use or you would like to use in your lessons.

Curriculum adviser (CA): I have not used any e-learning tools in my lessons, but I usually use Whatsapp to communicate with learners and Emails to communicate with teachers. By sending them relevant documents to WhatsApp groups and emailing question papers and memorandums to teachers.

Masimula NL: How was the selected e-learning tool relevant to the purpose of the lesson?

Curriculum adviser (CA): The selected e-learning tool was relevant because it enabled learners to watch an educational video, which would not been possible if the e-learning tool was not used.

Masimula NL: How was the e-learning tool used to encourage the use of higher order thinking skills including creating, evaluating and analysing?RQ1

Curriculum adviser (CA): The tool has stimulated learners' cognitive skills on analyzing and evaluating information by encouraging learners to be able to listen and process information to be able to answer questions concerning the given information on the video.

Masimula NL: How did the e-learning tool motivate the learners to use e-learning tools in the future?RQ1

Curriculum adviser (CA): Learners mostly enjoy watching videos on their own personal devices at their personal space, so this activity motivates them to know that they can still watch educational videos that will help them process concepts learnt in class at home.

Masimula NL: How was the e-learning tool used to provide learners with insightful corrective feedback?RQ1

Curriculum adviser (CA): After learners had submitted their written class activities. For consolidation learners were given a chance to go back and watch the video to correct their mistakes and brash off on the knowledge they might have missed in the first time their watched the video.

Masimula NL: What do you think the learners struggled with during the lesson?RQ2

Curriculum adviser (CA): Due to limited resources learners had to use their earphones and headphones. Those learners that didn't had them struggled to hear the sound in the video. The video was not audible enough without earphones.

Masimula NL: What did you see as gaps in the e-learning tools that would not be there if taught in the traditional way?RQ2

Curriculum adviser (CA): The selected video's examples and demonstrations on the topic/concept were not sufficient and if the topic/concept was explained in the traditional teaching method, the teacher would have been able to explain using more examples and use a chalkboard to make more demonstrations.

Masimula NL: Where the rural learners able to use the e-learning tool integrated in today's lesson? Motivate your answer RQ2

Curriculum adviser (CA): Yes, most learners were able to use the tool, because they are using the same app in their own smartphones to play videos. Only few learners struggled to use the tool, because they do not have smartphones and also lack basics on using a smart devices.

Masimula NL: Did learners acquire all the expected outcomes during the intervention? If No, why? RQ2/RQ3

Curriculum adviser (CA): Yes, learners did acquire the expected outcomes, they were able to answer the questions given to them correctly. They also actively participated in the consolidation phase as part of the corrections.

Masimula NL: What are your thoughts regarding this intervention?RQ3

Curriculum adviser (CA): The use of videos as a learning material is such a great idea. As learners can download the videos and keep them for revision purposes. Besides learners can share the videos amongst themselves for free and watch them at anytime of the day.

Masimula NL: How did the teacher create a suitable environment and climate for teaching and learning using the e-learning tool? RQ3

Curriculum adviser (CA): The teacher used the e-learning tool to awake concentration and prior knowledge. While the learners were silent and concentrating on the video, they were able to gain knowledge and understanding of the concept. At the end of the lesson because learners did listen attentively they were able to actively participate in the class discussion.

Masimula NL: How would you improve the intervention? RQ3

Curriculum adviser (CA): By using more than one video that explains the same concept for better understand. It also gives learners different views; demonstrations; and examples, so learners can choose to listen more to the video they understand better.

Masimula NL: Do you think the lesson would have been just as effective if there was no e-learning tools used? Motivate your answer. RQ3

Curriculum adviser (CA): No, the e-learning tool gave learners the opportunity to rewind the video to where they did not understand and also fast-forward the information they already knew and lastly save the video to watch it later. Of which it’s impossible to do with the traditional teaching method.

Masimula NL: How did the e-learning tool enhance the teaching and learning of isiNdebele in the lesson? RQ3

Curriculum adviser (CA): The teaching and learning process were enhanced. Learners were able to retain information faster and able to produce it in writing during the written class activity and speaking during the class discussion. It is flexible as learners can choose to write notes or save the video to be part of their learning materials in future.

Masimula NL: Do you think that the e-learning tools contributed to collaborative learning? In what way? RQ3

Curriculum adviser (CA): Yes, learners sharing the video using “share it” application was not planned, but it improved learner cooperation and collaboration because they all wanted to watch the video so they worked together to make sure every learner received it so they can watch it together. Secondly, after watching the video for the third time, the teacher opened the class discussion as part of corrections, which gave learners an opportunity to teach each other by commenting and explaining further the concept.

Masimula NL: To what extent do you think the e-learning tool transformed teaching and learning of IsiNdebele in the lesson?RQ3

Curriculum adviser (CA): E-learning tool transformed learning to a more peer-to-peer learning than a teacher-learner learning. With the use of videos learners can save them to watch them later, they can share them with other peers from other schools and they can always have them for revision with a pause and play button to make things easy.

Masimula NL: Did learners acquire all the expected outcomes during the intervention? If No, why? RQ2/RQ3

Yes, learners were able to acquire mostly all the expected outcomes.

Lesson number: 2

Teacher position: Language head of the department (HOD)

Date: 20 October 2020

E-learning tool name: Microsoft Word (Mind map)

Masimula NL: Good day Sir, thank you for your participation in this study and I would like to get straight to the interview questions so we can get through with this interview quickly.

Language head of the department (HOD): Good afternoon, it is my pleasure to participate in this study.

Masimula NL: Ok, firstly can you list the e-learning tools you mostly use or you would like to use in your lessons. RQ1

Language head of the department (HOD): I have used a PDF reader and Microsoft Word, Excel and PowerPoint to view documents. Also used WhatsApp to create discussion groups.

Masimula NL: How was the selected e-learning tool relevant to the purpose of the lesson? RQ1

Language head of the department (HOD): The e-learning tool enabled learners to create their own mind maps using SmartArt and shapes.

Masimula NL: How was the e-learning tool used to encourage the use of higher order thinking skills including creating, evaluating and analysing?RQ1

Language head of the department (HOD): Learners were given an opportunity to research about a certain concept and create a Mind map which includes all the aspects

of the concept. The creation of the Mind map allows learners to evaluate and analyze the information found during research.

Masimula NL: How did the e-learning tool motivate the learners to use e-learning tools in the future?RQ1

Language head of the department (HOD): The e-learning tool can be used in different subjects to create a Mind map of concepts to ensure better understand and to see links available in the concept.

Masimula NL: How was the e-learning tool used to provide learners with insightful corrective feedback?RQ1

Language head of the department (HOD): To recap the lesson, learners were given a chance to present their group Mind maps. Which gave their peers a chance to correct each other and also add on the missing points. In that way learners got a feedback and saw how they can improve their Mind maps and also content on the specific concept.

Masimula NL: What do you think the learners struggled with during the lesson?RQ2

Language head of the department (HOD): Even though learners where taught how to use Microsoft Word to create Mind maps. They still found it difficult to choose shapes and add text inside the shapes. This is because they had limited time to play around with the feature and see how everything works.

Masimula NL: What did you see as gaps in the e-learning tools that would not be there if taught in the traditional way?RQ2

Language head of the department (HOD): due to learners not used to using the application it became difficult for them to create shapes, arrows and insert texts, even though they did had more knowledge and understood the concept. So they ended- up wasting more time on creating shapes and links than providing knowledge. If the lesson was taught in a traditional way of using an A3 paper and pencil learners would have had more content on the paper than they do now.

Masimula NL: Where the rural learners able to use the e-learning tool integrated in today's lesson? Motivate your answer RQ2

Language head of the department (HOD): Yes, learners followed the teacher's instructions and example and created their own Mind map, even though they couldn't finish because of the limited time.

Masimula NL: Did learners acquire all the expected outcomes during the intervention? If No, why? RQ2/RQ3

Language head of the department (HOD): No, it is difficult to conclude on whether the learners did acquire the expected outcomes since most of the groups didn't not finish their Mind maps. And the presentations had a limited time to point out what was missing their Mind maps.

Masimula NL: What are your thoughts regarding this intervention?RQ3

Language head of the department (HOD): It is such a great intervention as learners learn new ways of doing things, which expose them to digital classrooms. Where they can do tasks that are usually done traditionally, now being done electronically.

Masimula NL: How did the teacher create a suitable environment and climate for teaching and learning using the e-learning tool? RQ3

Language head of the department (HOD): The teacher grouped the learners in a group of 4 members. Where they were given 2 tablets each group. Where one was used for searching for information and the other one was used for creating the Mind map. The method helped in creating a conducive environment, because the teacher would be able to facilitate and see whether all the members of the group are participating in their respective groups.

Masimula NL: How would you improve the intervention? RQ3

Language head of the department (HOD): By planning the lesson to be a continues assessment, where learners will firstly learn how to use the Microsoft Word to do Mind

maps. Then in groups, help each other do Mind maps in the first lesson. Then in the second lesson, learners will have to do their own Mind maps individually, using the information and skills gathered in the past lesson. This will help the teacher evaluate clearly, whether the learners have acquired the expected outcomes.

Masimula NL: Do you think the lesson would have been just as effective if there was no e-learning tools used? Motivate your answer. RQ3

Language head of the department (HOD): No, it wouldn't have been as much effective, since learners would not be able to save their work on their personal devices and be able to view later, edit and share globally.

Masimula NL: How did the e-learning tool enhance the teaching and learning of isiNdebele in the lesson? RQ3

Language head of the department (HOD): The tool enhanced learning by assisting with understand the concept as it conveys hierarchy, relationships and allowing learners to see the bigger picture. The tool can also be used to create presentations, solve problems, create ideas and study for exams.

Masimula NL: Do you think that the e-learning tools contributed to collaborative learning? In what way? RQ3

Language head of the department (HOD): Yes. Learners shared skills on how to search information and how to create a Mind map on Microsoft Word. They also collaborated on using their past knowledge to link it to the new knowledge.

Masimula NL: To what extent do you think the e-learning tool transformed teaching and learning of IsiNdebele in the lesson?RQ3

Language head of the department (HOD): to a great extent, where learners would be able to create their own Mind maps using their devices.

Masimula NL: Did learners acquire all the expected outcomes during the intervention? If No, why? RQ2/RQ3

Language head of the department (HOD): No, learners did not finish the tasks because of the limited time, that is why, we cannot tell whether they did acquire the expected skills or not.

Lesson number: 3

Teacher position: Peer language teacher

Date: 21 October 2020

E-learning tool name: Microsoft Excel and PowerPoint (Tests)

Masimula NL: Good day, ma'am thank you for your participation in this study and I would like to get straight to the interview questions so we can get through with this interview quicklyRQ1.

Peer language teacher: Good day, it is my pleasure to participate in this study.

Masimula NL: Ok, firstly can you list the e-learning tools you mostly use or you would like to use in your lessons. RQ1

Peer language teacher: I have not used any e-learning tool in my teaching practices. I have only used Internet to download past question papers as part of lesson planning.

Masimula NL: How was the selected e-learning tool relevant to the purpose of the lesson? RQ1

Peer language teacher: The lesson aimed at assessing learners' understanding of all the information they acquired in the past days. So the tests designed in the Microsoft Excel and Microsoft PowerPoint were good exercises to tests the understand and to evaluate whether the expected skills were really acquired.

Masimula NL: How was the e-learning tool used to encourage the use of higher order thinking skills including creating, evaluating and analysing?RQ1

Peer language teacher: It encouraged learners to use their cognitive skills to remember the knowledge they have learnt before and apply the knowledge to answer questions in the tests.

Masimula NL: How did the e-learning tool motivate the learners to use e-learning tools in the future?RQ1

Peer language teacher: The tools motivate learners to be able to create their own tests and share them amongst themselves as part of creating competitions and also as practice tests to prepare for exams.

Masimula NL: How was the e-learning tool used to provide learners with insightful corrective feedback?RQ1

Peer language teacher: The 1st test which was designed using the microsoft PowerPoint was a multiple choice. Learners would choose the answer of their choice and if the answer is correct it will move to the next question and if the answer is incorrect it will take the learner back notes and diagrams that explains that concept. The second test was also a multiple choice, designed using a Microsoft Excel. Learners had to write the whole test in their devices thereafter the programme will mark the work on the behalf of the teacher and give feedback to learners.

Masimula NL: What do you think the learners struggled with during the lesson?RQ2

Peer language teacher: The learners did not struggled with anything as they were given clear instructions and demonstrations on how to complete the tests.

Masimula NL: What did you see as gaps in the e-learning tools that would not be there if taught in the traditional way?RQ2

Peer language teacher: The answers in the feedback had no further explanations on how did they get to the answer, which would have been possible if the feedback was given by the teacher in a traditional teaching method.

Masimula NL: Where the rural learners able to use the e-learning tool integrated in today's lesson? Motivate your answer RQ2

Peer language teacher: Yes. Learners enjoyed writing the tests on their devices instead of using a paper and pen. So they listened to the instructions and followed them. At the end of the lesson learners where able to go fort and back in the tests to see their mistakes.

Masimula NL: Did learners acquire all the expected outcomes during the intervention? If No, why? RQ2/RQ3

Peer language teacher: Yes, by the total marks learners got in the tests showed us that learners have acquired all the expected outcomes.

Masimula NL: What are your thoughts regarding this intervention?RQ3

Peer language teacher: It is a good intervention especially for revision as it provides a simple reflective feedback for learners to see how they have performed. It also makes learners aware of the features in their smartphones that they can use to study their school work.

Masimula NL: How did the teacher create a suitable environment and climate for teaching and learning using the e-learning tool? RQ3

Peer language teacher: Since it was an individual assessment, a teacher provided each learner with their own tablet to complete the tests. Learners were reminded to follow the exams rules by not talking to each other, focus on their tests and raise their hand if there are any questions. There was a stopwatch used to control time so all the learners receive equal time in completing the tests.

Masimula NL: How would you improve the intervention? RQ3

Peer language teacher: Increase the number of questions, use bloom's taxonomy to formulate questions and lastly create extra tests or activities to keep the learners who finish faster busy.

Masimula NL: Do you think the lesson would have been just as effective if there was no e-learning tools used? Motivate your answer. RQ3

Peer language teacher: No, with the use of PowerPoint learners were getting feedback same time if they have selected a wrong answer. The feedback would take the learner back to the whole concept and explain further for that individual learner to understand. Of which, if it was a traditional class the teacher would have to wait for learners to finish and start explaining the concept from the beginning using charts while the e-learning tool used picture that can saved to learners' smart phones.

Masimula NL: How did the e-learning tool enhance the teaching and learning of isiNdebele in the lesson? RQ3

Peer language teacher: It enhanced the lesson by providing instant notes and feedback as soon as the learners completed the task.

Masimula NL: Do you think that the e-learning tools contributed to collaborative learning? In what way? RQ3

Peer language teacher: No, the lesson did not allow learners to collaborate since it was evaluating an individual's progress.

Masimula NL: To what extent do you think the e-learning tool transformed teaching and learning of IsiNdebele in the lesson?RQ3

Peer language teacher: The teaching and learning of isiNdebele was transformed to an extent that learners would be able to access IsiNdebele notes from the Internet and also access practice tests on the Internet to do them at anytime and anywhere.

Masimula NL: Did learners acquire all the expected outcomes during the intervention? If No, why? RQ2/RQ3

Peer language teacher: All learners did acquire the expected outcomes, even though they acquired them in different timing.

Lesson number: 4

Teacher position: Peer language teacher (Assistant Teacher)

Date: 22 October 2020

E-learning tool name: Facebook Page

Masimula NL: Good day Sir, thank you for your participation in this study and I would like to get straight to the interview questions so we can get through with this interview quicklyRQ1.

Peer language teacher: Good day, it is my pleasure to participate in this study.

Masimula NL: Ok, firstly can you list the e-learning tools you mostly use or you would like to use in your lessons. RQ1

Peer language teacher: I have used a smartboard from the former school, I was teaching at. I used a smartboard to draw Mind maps and list examples adding on the text appearing on the smartboard. I have also used it to work on past question papers with learners.

Masimula NL: How was the selected e-learning tool relevant to the purpose of the lesson? RQ1

Peer language teacher: It was relevant as learners are able to share their own knowledge on topics they have already done and being able to comment on each other's videos made it even more of a peer-to-peer learning.

Masimula NL: How was the e-learning tool used to encourage the use of higher order thinking skills including creating, evaluating and analysing?RQ1

Peer language teacher: Giving learners an opportunity to create their own lesson and take a video encourages creativity and let learners evaluate and analyze the topic they know best and which ones they more assistance to.

Masimula NL: How did the e-learning tool motivate the learners to use e-learning tools in the future?RQ1

Peer language teacher: The lesson motivates learners to learn more from themselves and also from peers. It creates a platform where learners can discuss the topics and share information.

Masimula NL: How was the e-learning tool used to provide learners with insightful corrective feedback?RQ1

Peer language teacher: With the comment section under each posted video gave the class peers the opportunity to comment and correct mistakes and add on the missing information.

Masimula NL: What do you think the learners struggled with during the lesson?RQ2

Peer language teacher: learners struggled with posting and watching the videos on the Facebook page due to low Internet connection.

Masimula NL: What did you see as gaps in the e-learning tools that would not be there if taught in the traditional way?RQ2

Peer language teacher: Learners making class presentation would have been simple and cost free, though there would not have enough time to listen to every learner's comment.

Masimula NL: Where the rural learners able to use the e-learning tool integrated in today's lesson? Motivate your answer RQ2

Peer language teacher: Yes because most of them do post videos on Facebook all the time.

Masimula NL: Did learners acquire all the expected outcomes during the intervention? If No, why? RQ2/RQ3

Peer language teacher: Yes, learners did acquire the expected outcomes and they are even able to go back to the videos at home and revise on the knowledge.

Masimula NL: What are your thoughts regarding this intervention?RQ3

Peer language teacher: It is a good intervention giving learners access to have what they do in class at their own personal space. And allowing them to teach each other instead of always depending on the teacher.

Masimula NL: How did the teacher create a suitable environment and climate for teaching and learning using the e-learning tool? RQ3

Peer language teacher: Learners were given rules on how to use the Facebook page for educational purposes only. The Facebook page has enabled private settings, it can only be access by the selected learners.

Masimula NL: How would you improve the intervention? RQ3

Peer language teacher: I think the teacher can connect a laptop to a screen projector and once in a week together as a class would watch one or two videos as part of the revision, because not all learners can afford data to watch the videos at home.

Masimula NL: Do you think the lesson would have been just as effective if there was no e-learning tools used? Motivate your answer. RQ3

Peer language teacher: No, because if they had to present in a classroom they would not be able to record/grasp the whole information presented on that day. With a Facebook page the information will remain there for good and they can retrieve it anytime they wish.

Masimula NL: How did the e-learning tool enhance the teaching and learning of isiNdebele in the lesson? RQ3

Peer language teacher: The e-learning tool enhanced the teaching and learning by keeping the information stored and accessible at all times.

Masimula NL: Do you think that the e-learning tools contributed to collaborative learning? In what way? RQ3

Peer language teacher: Yes, learners were motivated to do the videos in pair or groups to help each other gather information and present it.

Masimula NL: To what extent do you think the e-learning tool transformed teaching and learning of IsiNdebele in the lesson?RQ3

Peer language teacher: Learners can share, access and revise the information taught in class at their own time and space.

Masimula NL: Did learners acquire all the expected outcomes during the intervention? If No, why? RQ2/RQ3

Peer language teacher: No, because they only managed to post the videos but they did not watch them in class as planned to see what other learners has post.

6.6 Appendix F: A Teacher's Self-Reflective Journal

Name of the e-learning tool: Media player

Lesson number: 1

Entry Date: 19/ 11/2020

challenges

- So all the learners had the video in their devices, which they watched using a "Media player".
- It became difficult for learners to listen to the video since the school does not have speakers, so learners were supposedly have to listen to their earphones and headphones of which some learners do not have them.
- The school does not have speakers but have a projector where leaners can listen and watch the video together.
- So they had to use their earphones and listen to the video to be able to do the assignment given to them.
- Few learners struggled the most to follow the instructions or use the devices, reason being that those few learners do not own a smartphone or any other technological devices.
- Learners not being familiar with technology devices caused them to focus more on perating the devices instead of focusing on the content.
- They want to do what their friends are doing.
- Challenge when learners are given instructions, they prefer to see what their friends are doing first before they can do it.
- Some were afraid to do anything on their devices and requested their friends to help them.

- Using a Media player had it disadvantages (1) as a teacher, I cannot control learners forwarding and rewinding the video since they had to watch it twice and answer the questions, to test their listening skills.

Lesson learnt

- The use of technological devices motivated learners to behave, study and engage fully in the learning experiences because they want to continue using the tablets.
- Learners process the information faster when watching a video because they actually see and hear the concept being taught.
- E-learning tools such as Media player helps with increasing knowledge retention, since learners can pause, rewind, fast-forward and replay the video as many times as they can.
- Learners' digital literacy and communication skills developed swiftly.

Substitution (Media player)

- With the use of the great app checklist we determine the e-learning tool that will be a good one to be substituted in this lesson.
- The great app checklist help us to see the needs or help us to meet the need of the learners and teachers.
- With the educational e-learning tool marketplace full of options, we managed to choose a YouTube e-learning tools.
- YouTube was created as a generic app used as a sharing video platform.
- After the launch of YouTube it immediately became the distribution site of content by many educational institutions.
- Youtube was selected using the great app checklist to be the e-learning tool that would be suitable or appropriate to be used in a rural Isindebele classroom.
- Youtube as a site met the following criteria for the purpose of the lesson number 1, youtube met the needs the needs of the lesson at hand, the teacher planned to search for an educational video on youtube and play it for leaners to watch. Thereafter leaners will answer questions that relate to the video.

*the educational video found on youtube met the school standards, related to the curriculum and it is levelled appropriate for my students. * The site is well designed and engaging, it ease of use to learners.

* It is accessible on all necessarily platforms, adhere to accessibility guidelines and accommodates English language learners.

* Lastly the site is free but recommends date to be used and it has a privacy policy.

- Though where supposed to be implemented we found out that the site does not support the school network.
- We could connect the devices to the school Wi-Fi but we couldn't access the Internet to visit the site.
- That led the teacher to download the youtube video that was planned to be watched by learners to be submitted during the lesson.
- The teacher used a "share it" application to send the video to all the students' devices.
- The video was then watched by the leaners at the same time using a Media player.
- Media player app met the needs of the lesson at hand, plus it is free and can be used offline.
- The media play aligned to the schools standards related to the curriculum and it's levelled appropriately for learners.
- Media player doesn't have a privacy policy, and you can't see reports of learner's usage. Though it can store videos and export or share of social media and it is easy to use.

Media player

- Media player is a software program used to play multimedia computer files eg audio and videos such as mp3 songs, video clips or movies Media player displays standard media control icon such as play, pause, fast-forward, reverse and stop baton.
- It aligns with the syllabus and the curriculum since the educator is the one who will choose which video to be watched.

Name of the e-learning tool: Microsoft Word

Lesson number: 2

Entry Date: 20/11/2020

Lesson two (Augmentation) Microsoft Word

- Learners were supposed to use Mind map website to draw a Mind map on the particular topic given to them.
- Due to devices not being able to connect to Internet at once
- The solution was that learners use Microsoft Word and shapes, SmartArt and charts.
- With this illustrations learners were expected to create Mind maps or shows how topics and subtopics of that learning area given to them correlates.
- Every learner had a device but they were allowed to use two in a group and submit one Mind map to be viewed by the whole class.
- At first, it was too difficult for learners to use the shapes and smartArt. Since it was their first time using Microsoft Word for others.
- For those who have used Microsoft Word before, were saying they only used it for typing only without inserting anything.
- So all the learners need more time to play around with those shapes and see what they can do or how they work
- At the end of the class learners, where able to submit their Mind maps in groups
- In groups learners were able to share skills and content of which made it easy for them to be able to submit.

The great app checklist and evaluation tool for instructional function

- Microsoft Word met all the needs for the lesson at hand
- By fitting into the school's standards, relate to the curriculum and it is levelled appropriately for my learners.
- The way the app was implemented, it provided an authentic experience, facilitate collaboration and higher order thinking and lastly it is engaging to use.

- The Microsoft Word does have settings for private keeping and have a privacy policy.
- It is free to use and the size of the app is appropriate, can be access from different devices.
- The app is also easy to use.

Challenges

- Learners had difficulties to design Mind map using shapes and smartArt found in the Microsoft Word.
- They seemed to have lot of content, but they could not include it in their work because they waist lot of time in trying to see how the shapes can be enlarged, decreased, insert text and change colours
- Working in groups for a long time can be very tiring, you find out towards the end of the projct, the are only two or 50% of the group members are still working together and others are either talking about something else or are simply no longer cooperating
- In this case, I found almost 50% of each group members would loose interest if they find challenges and end up taking pictures with the tablet, while the other members are left to continue with the work.
- Learners would fight to hold the tablet since each group is given two tablets and there are four members in each group.
- Learners fail to communicate to each other and delegate the work amongst themselves, which led to other members to withdraw.
- In this lesson other learners will use the other tablet to try to do their own work in pairs or individual separate from the group.

Lesson learnt

- The teacher need to be an active facilitator at all time by moving ariund to see what is happening at each group
- Enforce classroom rules always at the beginning of the class/lesson

- Keep the groups small with learner having a heterogeneity skills, so they can be able to assign themselves different roles or duties that suit each other's best skills and interests.
- During group work it is important to encourage learners to delegate or assign themselves roles to be able to manage time.
- Motivate learners to explain to each other at all times " how they reached the answer" and how important it is to discuss the decision taken to complete the task given, so all the learners/ members are able to explain/ present the task if needed.

Name of the e-learning tool: Microsoft PowerPoint and Microsoft Excel

Lesson number: 3

Entry Date: 21/11/202

Lesson three (modification) Microsoft PowerPoint and Microsoft Excel

The great app checklist and evaluation tool for instructional function

- The app met the purpose of the lesson at hand
- It fit to the school standard, relate to the curriculum and is levelled appropriately for the learners.
- The app is used in the lesson to be able to provide appropriate and immediate feedback, to facilitate higher order thinking skills, provide an authentic experience and be engaging to use.
- I am able to see reports of learners usage and the test can be exported and shared on social media.
- The app has privacy policy and data can be kept private, not shared
- It is free and has appropriate size for different devices and does provide support for lesson plan integration.
- It is available on the necessary platforms and it is ease to use.

Challenges

- Some of the PowerPoint slides contained links to notes that learners can get feedback on so they could not access those links
- Learners completed those tasks at different times, those that complete The tasks fast they got bored easy and end up disturbing the ones whos are still waiting.

Lesson learnt

- Learners enjoy competing for a prize. So knowing that after the test will get their results sometimes
- Got them rushing though the test

Name of the e-learning tool: Facebook Page

Lesson number: 4

Entry Date: 22/11/2020

Lesson four (Redefinition) Facebook page

The great app checklist and evaluation tool for instructional function

It is aligned with principles as it offers learners a chance to download, upload and comment on educational materials. Learners are able to store their educational material to be able to come back and use it for revision. Learners can download past materials such as question papers, quizzes, videos and documents and upload them on the Facebook page for sharing and revision. Learners can upload their own materials to be accessed by other learners from the same class or other schools. Learners can comment and share views. Comment section can be controlled by the teacher.

The software is aligned with the syllabus, curriculum and levelled appropriate as websites are being use more than before in our daily lives. It is free though it require Internet data to operate. The Facebook page was integrated in a lesson in such a way that it facilitate higher order thinking skills, it provided an authentic experience, it facilitated collaboration and it is engaging to use. The e-learning tool enable learner account, it offer a different experience for students based on Internet and it allowed for differentiation and customization of learning. Furthermore it is easy to use, accessible on all the necessary platforms, size appropriate and has privacy policy that a teacher set to protect the learners' data. Lastly, the teacher can see reports of the learners' usage.

6.7 Appendix G: Consent letter- Principal

The Principal

Zamazama Secondary School

Dear Sir/Madam,

INVITATION FOR YOUR SCHOOL TO PARTICPATE IN RESEARCH PROJECT –

E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context

I am currently enrolled for a Masters' degree at the University of Pretoria. Part of the requirements for the awarding of this degree is the successful completion of a significant research project in the field of education.

The title of my approved research study is **"E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context".** This study is concerned with the extent to which e-learning tools enhance the teaching and learning of isiNdebele home language in a rural secondary school context of South African schools.

Your school is hereby invited to participate in this research project, which aims to understand:

- How appropriate are the selected e-learning tools for the purpose of teaching IsiNdebele in a rural secondary school context?
- What are the challenges experienced by rural IsiNdebele teachers when they integrate the selected e-learning tools into their lesson plans?
- What lessons can be learned from implementing the selected e-learning tools in a rural IsiNdebele classroom?

Below is the scope and responsibility of your school's participation. To gather information, I am required to approach the curriculum adviser (CA), language head of the department (HOD), peer language teacher, and grade 11 IsiNdebele home language learners with an individual invitation to participate. Those teachers who do agree to participate will be

invited to observe the lessons to be presented. Thereafter, they will be interviewed about certain aspects of educational technology in teaching and learning. Those grade 11 IsiNdebele home language learners who do agree to participate will be studied and given a written questionnaire to answer about certain aspects of educational technology in teaching and learning. This process should take no longer than 60 minutes a day for a minimum of four different days and will be conducted at the school classroom.

Please understand that the decision for your school to participate is completely voluntary and that permission for your participation will also be protected by the Limpopo Department of Education. Please also note that each individual's participation in the study will be completely voluntarily and will in no way either advantage or disadvantage them. Each participant will be free, at any stage during the process up to and including the stage at which they authenticate the transcript of their interview, to withdraw their consent and assent to participate, in which case their participation will end immediately without any negative consequences. Any and all data collected from them up to that point in the study will then be dismissed.

All the information obtained during the research study will be treated confidentially. At no time will either your school or any of the individual participants be mentioned by name or indeed be allowed to be identified by any means in the research report.

I would also like to request your permission to use the data, confidentially and anonymously, for further research purposes, as the data sets are the intellectual property of the University of Pretoria. Further research may include secondary data analysis and using the data for teaching purposes. The confidentiality and privacy applicable to this study will be binding on future research studies.

At the end of the research study you will be provided with a copy of the research report containing both the findings of the study and recommendations. This research study presents a unique opportunity for your school to get involved in the process of research aimed at exploring e-learning tools to enhance the teaching and learning of isiNdebele home language in a rural secondary school context. If you decide to allow your school's participation, kindly complete the consent form.

Thanking you for your consideration to be part of this study.

Yours Sincerely,

NL. Masimula

Student Researcher

University of Pretoria

u13302940@tuks.co.za

(071) 470 1232

Dr K. Moodley

Supervisor

University of Pretoria

kimera.moodley@up.ac.za

(012) 420 2855

LETTER of CONSENT

SCHOOL AS PARTICIPANT

VOLUNTARY PARTICIPATION IN THE RESEARCH PROJECT ENTITLED:

E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context

I, _____, the principal of

_____hereby voluntarily and willingly agree to allow my school to participate in the above-mentioned study introduced and explained to me by Nokuthula Masimula, currently a student enrolled for a M.Ed Degree at the University of Pretoria.

I further declare that I understand, as were explained to me by the researcher, the aim, scope, purpose, possible consequences and benefits and methods of collecting information proposed by the researcher, as well as the means by which the researcher will attempt to ensure the confidentiality and integrity of the information she collects.

_____ _____

Full name Signature

School stamp

_____

Date

6.8 Appendix H: Consent letter- Parents

The Parent or Legal Guardians

Dear Sir/Madam,

INVITATION FOR YOUR SCHOOL TO PARTICPATE IN RESEARCH PROJECT –

E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context

I am currently enrolled for a Masters' degree at the University of Pretoria. Part of the requirements for the awarding of this degree is the successful completion of a significant research project in the field of education.

The title of my approved research study is **"E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context".** This study is concerned with the extent to which e-learning tools enhance the teaching and learning of IsiNdebele home language in a rural secondary school context of South African schools.

Your permission is requested for your child to participate in this research project, which aims to understand:

- How appropriate are the selected e-learning tools for the purpose of teaching IsiNdebele in a rural secondary school context?
- What are the challenges experienced by rural IsiNdebele teachers when they integrate the selected e-learning tools into their lesson plans?
- What lessons can be learned from implementing the selected e-learning tools in a rural IsiNdebele classroom?

Below is the scope and responsibility of your child's participation. To gather information, I request permission to present an IsiNdebele home language lesson, which integrates an e-learning tool. Thereafter, your child will be required to answer a written questionnaire about certain aspects of the lesson presented to them. This process should take no longer than 60 minutes a day for minimum of four different days, and will be conducted at the school classroom. I have included here for your information a guiding set of a written questionnaire.

Please understand that the decision for your child to participate is completely voluntary and that permission for your child's participation will also be protected by the Limpopo Department of Education. Please also note that each individual's participation in the study will be completely voluntarily and will in no way either advantage or disadvantage them. Each participant will be free, at any stage during the process up to and including the stage at which they authenticate the transcript of their interview, to withdraw their consent and assent to participate, in which case their participation will end immediately without any negative consequences. Any and all data collected from them up to that point in the study will then be dismissed.

All the information obtained during the research study will be treated confidentially. At no time will either your school or any of the individual participants be mentioned by name or indeed be allowed to be identified by any means in the research report.

I would also like to request your permission to use the data, confidentially and anonymously, for further research purposes, as the data sets are the intellectual property of the University of Pretoria. Further research may include secondary data analysis and using the data for teaching purposes. The confidentiality and privacy applicable to this study will be binding on future research studies.

At the end of the research study you will be provided with a copy of the research report containing both the findings of the study and recommendations. This research study presents a unique opportunity for your child to get involved in the process of research aimed at exploring e-learning tools to enhance the teaching and learning of IsiNdebele home language in a rural secondary school context. If you decide to allow your child's participation, kindly complete the consent form.

Thanking you for your consideration in this research study.

Yours Sincerely,

NL. Masimula
Student Researcher
University of Pretoria
u13302940@tuks.co.za
(071) 470 1232

Dr K. Moodley
Supervisor
University of Pretoria
kimera.moodley@up.ac.za
(012) 420 2855

LETTER of CONSENT

SCHOOL AS PARTICIPANT

VOLUNTARY PARTICIPATION IN THE RESEARCH PROJECT ENTITLED:

E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context

I, _____, the parent or legal guardians of _____hereby voluntarily and willingly agree to allow my child to participate in the above-mentioned study introduced and explained to me by Nokuthula Masimula, currently a student enrolled for a M.Ed Degree at the University of Pretoria.

I further declare that I understand, as were explained to me by the researcher, the aim, scope, purpose, possible consequences and benefits and methods of collecting information proposed by the researcher, as well as the means by which the researcher will attempt to ensure the confidentiality and integrity of the information she collects.

_____ _____

Full name Signature

_____

Date

6.9 Appendix I: Consent letter- The Curriculum Adviser

The Curriculum Adviser of IsiNdebele home language

Dear Dr/Sir/Madam,

INVITATION TO PARTICPATE IN RESEARCH PROJECT –

E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context.

I am currently enrolled for a Masters' degree at the University of Pretoria. Part of the requirements for the awarding of this degree is the successful completion of a significant research project in the field of education.

The title of my approved research study is **"E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context".** This study is concerned with the extent to which e-learning tools enhance the teaching and learning of isiNdebele as a home language in a rural secondary school context of South African schools.

You are hereby invited to participate in this research project, which aims to understand:

- How appropriate are the selected e-learning tools for the purpose of teaching IsiNdebele in a rural secondary school context?
- What are the challenges experienced by rural IsiNdebele teachers when they integrate the selected e-learning tools into their lesson plans?
- What lessons can be learned from implementing the selected e-learning tools in a rural IsiNdebele classroom?

Below is the scope and responsibility of your participation. To gather the information, required for this research, I request permission to invite you to observe the lessons to be presented. Thereafter, interview you about certain aspects of educational technology in teaching and learning. This interview should take no longer than 60 minutes, and can be

conducted at any location you suggest. I have included here for your information a schedule of interview questions.

Please understand that the decision for you to participate is completely voluntary and that permission for your participation will also be protected by the Limpopo Department of Education. Please also take into account that each individual's participation in the study will be completely voluntarily and will in no way either advantage or disadvantage them. Each participant will be free, at any stage during the process up to and including the stage at which they authenticate the transcript of their interview, to withdraw their consent to participate, in which case their participation will end immediately without any negative consequences. Any and all data collected from them up to that point in the study will then be dismissed.

All the information obtained during the research study will be treated confidentially. At no time will either you or your school be mentioned by name or identified by any manner whatsoever in the research report.

I would also like to request your permission to use your data, confidentially and anonymously, for further research purposes, as the data sets are the intellectual property of the University of Pretoria. Further research may include secondary data analysis and using the data for teaching purposes. The confidentiality and privacy applicable to this study will be binding on future research studies.

At the end of the research study you will be provided with a copy of the research report containing both the findings of the study and recommendations. This research study presents a unique opportunity for you and your school to get involved in the process of research aimed at exploring e-learning tools to enhance the teaching and learning of isiNdebele home language in a rural secondary school context. If you decide to participate in this research study, kindly complete the consent form attached.

Thanking you for your consideration to be part of this study.

Yours Sincerely

NL. Masimula

Student Researcher

University of Pretoria

u13302940@tuks.co.za

(071) 470 1232

Dr K. Moodley

Supervisor

University of Pretoria

kimera.moodley@up.ac.za

(012) 420 2855

LETTER of CONSENT

INDIVIDUAL PARTICIPANT

VOLUNTARY PARTICIPATION IN THE RESEARCH PROJECT ENTITLED:

E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context.

I, _____, hereby voluntarily and willingly agree to participate as an individual in the above-mentioned study introduced and explained to me by Nokuthula Masimula, currently a student enrolled for a M.Ed Degree at the University of Pretoria.

I further declare that I understand, as were explained to me by the researcher, the aim, scope, purpose, possible consequences and benefits and methods of collecting information proposed by the researcher, as well as the means by which the researcher will attempt to ensure the confidentiality and integrity of the information she collects.

_____ _____

Full name Signature

_____

Date

6.10 Appendix J: Consent letter- The Head of department

The Head of department (HOD) in languages

Dear Sir/Madam,

INVITATION TO PARTICPATE IN RESEARCH PROJECT –

E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context.

I am currently enrolled for a Masters' degree at the University of Pretoria. Part of the requirements for the awarding of this degree is the successful completion of a significant research project in the field of education.

The title of my approved research study is **"E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context".** This study is concerned with the extent to which e-learning tools enhance the teaching and learning of isiNdebele as a home language in a rural secondary school context of South African schools.

You are hereby invited to participate in this research project, which aims to understand:

- How appropriate are the selected e-learning tools for the purpose of teaching IsiNdebele in a rural secondary school context?
- What are the challenges experienced by rural IsiNdebele teachers when they integrate the selected e-learning tools into their lesson plans?
- What lessons can be learned from implementing the selected e-learning tools in a rural IsiNdebele classroom?

Below is the scope and responsibility of your participation. To gather the information, required for this research, I request permission to invite you to observe the lessons to be presented. Thereafter, interview you about certain aspects of educational technology in teaching and learning. This interview should take no longer than 60 minutes, and can be conducted at any location you suggest. I have included here for your information a schedule of interview questions.

Please understand that the decision for you to participate is completely voluntary and that permission for your participation will also be protected by the Limpopo Department of Education. Please also take into account that each individual's participation in the study will be completely voluntarily and will in no way either advantage or disadvantage them. Each participant will be free, at any stage during the process up to and including the stage at which they authenticate the transcript of their interview, to withdraw their consent to participate, in which case their participation will end immediately without any negative consequences. Any and all data collected from them up to that point in the study will then be dismissed.

All the information obtained during the research study will be treated confidentially. At no time will either you or your school be mentioned by name or identified by any manner whatsoever in the research report.

I would also like to request your permission to use your data, confidentially and anonymously, for further research purposes, as the data sets are the intellectual property of the University of Pretoria. Further research may include secondary data analysis and using the data for teaching purposes. The confidentiality and privacy applicable to this study will be binding on future research studies.

At the end of the research study you will be provided with a copy of the research report containing both the findings of the study and recommendations. This research study presents a unique opportunity for you and your school to get involved in the process of research aimed at exploring e-learning tools to enhance the teaching and learning of isiNdebele home language in a rural secondary school context. If you decide to participate in this research study, kindly complete the consent form attached.

Thanking you for your consideration to be part of this study.

Yours Sincerely

NL. Masimula

Student Researcher

University of Pretoria

u13302940@tuks.co.za

(071) 470 1232

Dr K. Moodley

Supervisor

University of Pretoria

kimera.moodley@up.ac.za

(012) 420 2855

LETTER of CONSENT

INDIVIDUAL PARTICIPANT

VOLUNTARY PARTICIPATION IN THE RESEARCH PROJECT ENTITLED:

E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context.

I, _____, hereby voluntarily and willingly agree to participate as an individual in the above-mentioned study introduced and explained to me by Nokuthula Masimula, currently a student enrolled for a M.Ed Degree at the University of Pretoria.

I further declare that I understand, as were explained to me by the researcher, the aim, scope, purpose, possible consequences and benefits and methods of collecting information proposed by the researcher, as well as the means by which the researcher will attempt to ensure the confidentiality and integrity of the information she collects.

_____ _____

Full name Signature

_____

Date

6.11 Appendix K: Consent letter- Peer language teacher

The Peer language teacher

Dear Sir/Madam,

INVITATION TO PARTICPATE IN RESEARCH PROJECT –

E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context.

I am currently enrolled for a Masters' degree at the University of Pretoria. Part of the requirements for the awarding of this degree is the successful completion of a significant research project in the field of education.

The title of my approved research study is **"E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context".** This study is concerned with the extent to which e-learning tools enhance the teaching and learning of isiNdebele as a home language in a rural secondary school context of South African schools.

You are hereby invited to participate in this research project, which aims to understand:

- How appropriate are the selected e-learning tools for the purpose of teaching IsiNdebele in a rural secondary school context?
- What are the challenges experienced by rural IsiNdebele teachers when they integrate the selected e-learning tools into their lesson plans?
- What lessons can be learned from implementing the selected e-learning tools in a rural IsiNdebele classroom?

Below is the scope and responsibility of your participation. To gather the information, required for this research, I request permission to invite you to observe the lessons to be presented. Thereafter, interview you about certain aspects of educational technology in teaching and learning. This interview should take no longer than 60 minutes, and can be conducted at any location you suggest. I have included here for your information a schedule of interview questions.

Please understand that the decision for you to participate is completely voluntary and that permission for your participation will also be protected by the Limpopo Department of Education. Please also take into account that each individual's participation in the study will be completely voluntarily and will in no way either advantage or disadvantage them. Each participant will be free, at any stage during the process up to and including the stage at which they authenticate the transcript of their interview, to withdraw their consent to participate, in which case their participation will end immediately without any negative consequences. Any and all data collected from them up to that point in the study will then be dismissed.

All the information obtained during the research study will be treated confidentially. At no time will either you or your school be mentioned by name or identified by any manner whatsoever in the research report.

I would also like to request your permission to use your data, confidentially and anonymously, for further research purposes, as the data sets are the intellectual property of the University of Pretoria. Further research may include secondary data analysis and using the data for teaching purposes. The confidentiality and privacy applicable to this study will be binding on future research studies.

At the end of the research study you will be provided with a copy of the research report containing both the findings of the study and recommendations. This research study presents a unique opportunity for you and your school to get involved in the process of research aimed at exploring e-learning tools to enhance the teaching and learning of isiNdebele home language in a rural secondary school context. If you decide to participate in this research study, kindly complete the consent form attached.

Thanking you for your consideration to be part of this study.

Yours Sincerely

NL. Masimula

Student Researcher

University of Pretoria

u13302940@tuks.co.za

(071) 470 1232

Dr K. Moodley

Supervisor

University of Pretoria

kimera.moodley@up.ac.za

(012) 420 2855

LETTER of CONSENT

INDIVIDUAL PARTICIPANT

VOLUNTARY PARTICIPATION IN THE RESEARCH PROJECT ENTITLED:

E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context.

I, _____, hereby voluntarily and willingly agree to participate as an individual in the above-mentioned study introduced and explained to me by Nokuthula Masimula, currently a student enrolled for a M.Ed Degree at the University of Pretoria.

I further declare that I understand, as were explained to me by the researcher, the aim, scope, purpose, possible consequences and benefits and methods of collecting information proposed by the researcher, as well as the means by which the researcher will attempt to ensure the confidentiality and integrity of the information she collects.

_____ _____

Full name Signature

_____

Date

6.12 Appendix L: Assent letter- Learners

The Grade 11 learner

Dear Learner,

INVITATION TO PARTICPATE IN RESEARCH PROJECT –

E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context

I am currently enrolled for a Masters' degree at the University of Pretoria. Part of the requirements for the awarding of this degree is the successful completion of a significant research project in the field of education.

The title of my approved research study is **"E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context".** This study is concerned with the extent to which e-learning tools enhance the teaching and learning of isiNdebele as a home language in a rural secondary school context of South African schools.

You are hereby invited to participate in this research project, which aims to understand:

- How appropriate are the selected e-learning tools for the purpose of teaching IsiNdebele in a rural secondary school context?
- What are the challenges experienced by rural IsiNdebele teachers when they integrate the selected e-learning tools into their lesson plans?
- What lessons can be learned from implementing the selected e-learning tools in a rural IsiNdebele classroom?

Below is the scope and responsibility of your participation. To gather the information, required for this research, I request permission to present an IsiNdebele home language lesson, which integrates an e-learning tool. Thereafter, you will be required to answer a written questionnaire about certain aspects of the lesson presented to you. This lesson and questionnaire together should take no longer than 60 minutes, and will be conducted

at a school classroom. I have included here for your information a guiding set of a written questionnaire.

Please understand that the decision for you to participate is completely voluntary and that permission for your participation will also be protected by the Limpopo Department of Education. Please also take into account that each individual's participation in the study will be completely voluntarily and will in no way either advantage or disadvantage them. Each participant will be free, at any stage during the process up to and including the stage at which they authenticate the transcript of their questionnaire, to withdraw their assent to participate, in which case their participation will end immediately without any negative consequences. Any and all data collected from them up to that point in the study will then be dismissed.

All the information obtained during the research study will be treated confidentially. At no time will either you or your school be mentioned by name or identified by any manner whatsoever in the research report.

I would also like to request your permission to use your data, confidentially and anonymously, for further research purposes, as the data sets are the intellectual property of the University of Pretoria. Further research may include secondary data analysis and using the data for teaching purposes. The confidentiality and privacy applicable to this study will be binding on future research studies.

At the end of the research study you will be provided with a copy of the research report containing both the findings of the study and recommendations. This research study presents a unique opportunity for you and your school to get involved in the process of research aimed at exploring e-learning tools to enhance the teaching and learning of isiNdebele home language in a rural secondary school context. If you decide to participate in this research study, kindly complete the consent form attached.

Thanking you for your consideration to be part of this research study.

Yours Sincerely

NL. Masimula
Student Researcher
University of Pretoria
u13302940@tuks.co.za
(071) 4701232

Dr K. Moodley
Supervisor
University of Pretoria
kimera.moodley@up.ac.za
(012) 420 5734

LETTER of CONSENT

INDIVIDUAL PARTICIPANT

VOLUNTARY PARTICIPATION IN THE RESEARCH PROJECT ENTITLED:

E-learning tools for enhanced teaching and learning of IsiNdebele in a rural context.

I, _____, hereby voluntarily and willingly agree to participate as an individual in the above-mentioned study introduced and explained to me by Nokuthula Masimula, currently a student enrolled for a M.Ed Degree at the University of Pretoria.

I further declare that I understand, as were explained to me by the researcher, the aim, scope, purpose, possible consequences and benefits and methods of collecting information proposed by the researcher, as well as the means by which the researcher will attempt to ensure the confidentiality and integrity of the information she collects.

_____ _____

Full name Signature

_____

Date