

# **Teachers' perspectives on the integration of information and communication technology into the teaching and learning of Sesotho**

by

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## Declaration

I, Naledi Filita, declare that the research dissertation, **Teachers' perspectives on the integration of information and communication technology into the teaching and learning of Sesotho**, that I herewith submit for the degree qualification MEd in Education at the University of the Free State is my individual work which has not been previously submitted for a qualification at another university or college.

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## **Abstract**

The use of information and communication technology (ICT) devices has increased drastically in the past few years even in developing countries such as South Africa. As the relevance of ICTs increases across various areas of life, an understanding of its use by teachers for subject teaching becomes urgent. It is for these reasons that the study explored teachers' views and understanding on the use of ICTs to teach a language in schools. The study sought to unpack teachers' views and understanding of teaching one South African language, Sesotho, as a home language in secondary schools (Grade 8-12) within a district. Twelve teachers from a cohort of two Sesotho clusters of secondary schools in a selected district were recruited to take part in the study as participants by providing their first semester (January to May 2019) lesson plans. From these twelve, four were further selected to participate in semi-structured interviews. The views elicited in the course of the interviews were categorised into themes. The constructivism and theoretical pedagogical content knowledge (TPACK) frameworks provided the theoretical foundation and guided the study.

Five main findings were attained. Firstly, regarding the contextual settings, the findings of the study revealed that the availability of ICT tools determined the level at which participants integrated ICTs in teaching. In addition, lack of ICT tools available in schools limits teachers from exploring and practising different methods of teaching. Secondly, teachers possess poor technological knowledge (TK) and due to this, they experience technological problems with integrating ICTs into the teaching of Sesotho. Thirdly, teachers use the ICT resources available at school to ensure that teaching does not solely depend on traditional methods. Fourthly, the use of mobile devices benefits both teachers and learners as they are able to share information and ensure that the teaching and learning process does not end in the classroom but continues to take place even outside of the school premises. Finally, lack of information on operating technological devices hinders the process of integrating ICTs into the teaching of their subject, Sesotho.

The perspectives of Sesotho teachers in using ICTs in their practices may be addressed and recognised. The study may also inspire pedagogical practices that encourage learners to understand the value of Sesotho. Furthermore, the study may influence policy makers in considering addressing the issue of guidelines on ICT integration for the teaching of Sesotho. Lastly, through this study, the issue of the *digital divide* and its effects on schools may be addressed by the Department of Basic Education.

**Keywords:** information and communication technology (ICT); perspectives; Sesotho teaching and learning; technological pedagogical content knowledge (TPACK)

## **Dedication**

Much credit for the completion of this dissertation goes to my grandmother, Mangaka Filita, and my mother, Dimakatso Agnes Filita, who continue to encourage and support me to reach my goals. Moreover, I dedicate the completion of my master's degree to my amazing family; life partner, Thabiso; and children, Katleho and Mosa; for the endless love, support and understanding that I needed during this time to study.

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## List of Acronyms

CAPS	Curriculum and Assessment Policy Statement
CK	Content Knowledge
DBE	Department of Basic Education
DoE	Department of Education
IBP	Internet broadcasting project
ICT	Information and communication technology
LP	Lesson plan
PCK	Pedagogical content knowledge
PK	Pedagogical knowledge
TCK	Technological content knowledge
TK	Technological knowledge
TPACK	Technological pedagogical content knowledge



# CHAPTER 1: INTRODUCTION AND BACKGROUND

## 1.1 Introduction

Information and communication technology (ICT) has become an important part of our everyday lives. It is therefore important that it should also form part of the everyday teaching and learning experience in the classroom. The current generation of learners is exposed to the use of technology in all areas of their lives. Lee et al. (2014:243) state that “the current generation of students, born between 1980 and 1994, is highly attuned with technology and possesses sophisticated knowledge and skills in ICT”. This is because technology advances from generation to generation. Boldizar (2017) argues that in our modern age, people use technological devices every day, and this is important to know from an educational perspective. Since teachers form part of everyday society, it is equally important for them to be equipped with ICT knowledge and skills to perform their jobs.

Buabeng-Andoh (2012:37) states that “adoption of ICT by education has been seen as a powerful way to contribute to educational age, better prepare students for the information age, improve learning outcomes and competences of learners, and equip students with survival skills for the information society”. The author continues by emphasising that it is vital that educational institutions integrate ICTs into the classroom in order to teach learners the skills and knowledge that they require for the 21<sup>st</sup> century. Teachers are responsible for guiding the process of teaching and learning through the use of ICTs. Therefore, not only is the use of ICTs by teachers important, but also the ability to integrate it into the subject matter they teach. ICTs play an important role in ensuring that learners have a better understanding of and gain an interest in the subject matter (Ndlovu & Lawrence, 2012). Benini (2014) argues that ICTs provide support to contemporary pedagogical ideologies. This, then, is also the case with Sesotho acquisition.

The present study seeks to uncover teachers’ perspectives on the integration of ICTs into teaching within an African context in one selected district of the Free State province in South Africa. The focus is to explore teacher perspectives with respect to the use of ICTs

in the teaching of an indigenous South African language, Sesotho. Sesotho is a South African language taught at a number of South African schools. It is also the main language in a neighbouring country, Lesotho. Similar to teaching other subjects, teachers of Sesotho are expected to teach the subject effectively using ICTs.

Some parents oppose Sesotho being used as a language of instruction as they believe that it is underdeveloped (Webb, Lafon, Pare & Ramogoshi, 2007). Furthermore, UNESCO (2010) states that parents doubt the potential of the African language as medium of instruction as they believe that their children will not comprehend the content of their subjects adequately if they are taught in an African language. This also is true for Sesotho parents and has an influence on how their children view and value Sesotho. In contrast to this belief, there are a number of benefits that Sesotho can bring to native speakers if it were to be used as a language of instruction. Stein (2017:215) states that “choosing the learners’ home language as a home language does not only enable learners to pick up concepts in other learning areas more easily, but it also enables parents to assist with homework, participate in parent meetings, and communicate with teachers in a language in which they are comfortable”.

The importance of using technology in teaching and learning can, however, only be recognised if teachers actually integrate ICT into their teaching (Chigona, Chigona & Davids, 2014). The integration of ICTs into the teaching of Sesotho has the ability to change the negative perceptions of using Sesotho as language of instruction and, moreover, by integrating ICTs into pedagogy, teachers will be able to “take full advantage of the potential of technology to enhance student learning” (Parvin & Salam, 2015:51). The use of ICTs for teaching and learning brings about new and innovative pedagogical practices that motivate and develop learners’ interest in the subject. Liu, Lin and Zhang (2017:747) affirm this: “teachers holding traditional pedagogical beliefs tend to act as authorities in the classroom and to organise teacher-centred activities aimed at transmitting knowledge.” It is therefore important to conduct this study so that the views and understandings of teachers on the integration of ICT into teaching, especially as it relates to the teaching of languages, can be identified.

A number of studies on ICT integration for teaching languages have been conducted (Liu et al., 2017; Parvin & Salam, 2015; Rosa, 2016), stating the importance of ICTs in teaching languages and how it enhances teaching and learning. However, to date, literature is silent on ICT integration into the teaching of Sesotho as one of the South African languages taught in schools. In addressing this gap, this exploratory study seeks to start with an understanding of the challenges and opportunities of teachers teaching Sesotho, on issues of integrating ICTs into teaching and learning.

## **1.2 Background**

The use of ICTs has increased drastically in the past few years, in both developed and developing countries alike. As the relevance of ICT increases across various areas of life, an understanding of its use by teachers for subject teaching becomes urgent. For these reasons, it is important to explore teachers' views, understandings and experiences of the use of ICTs to teach subjects at schools. Teaching is a profession that constantly introduces changes to bring about developments. It is important for every teacher to adapt to these changes and use them to develop the subject(s) that they teach. ICT integration into pedagogy is a major development that brings positive changes in education. According to the Department of Education (DoE, 2004:16), "ICTs can enhance educational reform by enabling teachers and learners to move away from traditional approaches to teaching and learning."

According to Chai, Koh, Tsai and Tan (2011), it is often the case in many developed countries that classes are fully equipped with personal computers. However, the use of ICTs to enhance teaching and learning is not satisfactory. Koehler and Mishra (2009:61-62) affirm this by stating that "[t]eachers often have inappropriate experience with using digital technologies for teaching and learning." The reason for this could be that many teachers obtained their teaching qualifications before technology was as developed as it is today. Hence, they are not keen on integrating ICTs into teaching and/or do not regard it as valuable for teaching and learning. In an advanced education system such as that of Norway's primary school curriculum, implemented in 2006, digital literacy is said to be a basic skill developed through the integration of digital tools into the teaching

and learning of different subjects, in a manner similar to how other basic skills such as reading and writing are integrated naturally into all subjects. However, there is no guideline or direction on how this is put into practice, as the curriculum leaves it to each school to interpret the integration of ICTs into the teaching and learning of subjects (Hadjerrouit, 2008).

Buabeng-Andoh (2012) explored teachers' skills, perceptions and practices of ICTs in teaching and learning in Ghanaian second-cycle schools. The findings of their study reveal that there is a positive relationship between the use of ICTs and competence; therefore, the skills, knowledge and confidence that teachers have with the use of ICTs determine their integration of ICT into pedagogy. It is important to note that ICT integration into pedagogy means a lot more than the presence of ICT tools and knowing how they are used. Rather, it means being able to teach a subject using those tools. Integrating ICTs into teaching practices is a complicated and puzzling process (Aslan & Zhu, 2016). Being familiar with the content does not automatically translate to being able to enhance the learning of the subject. Some teachers are more familiar with the traditional pedagogical practices of teaching a subject and less with ICT integration into the teaching and learning of the subject. According to Khan, Hasan and Clement (2012), the lack of specific technological knowledge (TK) and skills, technology-supported pedagogical knowledge and skills, and technology-related classroom-management knowledge and skills has been identified as a major barrier to technology integration. This is why it is important to provide a platform for experienced teachers with pedagogical content knowledge (PCK) to express their views and experiences on the integration of ICTs into the teaching of a specific subject.

In the South African context, education policies emphasise the importance of producing learners that are ICT competent; however, very little is mentioned about teachers' competence pertaining to ICT integration into their teaching. For example, one of the aims of South Africa's curriculum policy is to produce learners who will be able to use technology effectively (DBE, 2011), yet the policy document itself does not provide any stipulations or guidelines on how teachers have to implement ICTs to teach effectively. It does not direct teachers on how to achieve its aims. In addition, the DoE (2013) states

that every learner in the general and further education phase had to be enabled to utilise ICTs effectively to be part of the global community by the year 2013, again without providing guidelines to the teachers on how to achieve this. This begs the question on how teachers perceive these demands placed on them by policy in relation to ICT competence and practice.

### **1.3 Problem Statement**

Constant developments are taking place in the education field which require technological innovations. Traditional pedagogical beliefs are associated with lower levels of ICT usage in the classroom and this leads to “newer” and “more innovative” pedagogical strategies that will enable learners to survive in contemporary society (Gill & Dalgarno, 2008; Parvin & Salam, 2015). Pedagogical practices that involve ICTs expose learners to available sources of new information and allow them to develop online skills which contribute to cognitive skills development (Prizel-Kania, 2015). Traditional pedagogical practices, such as the “chalk and talk” method and using teaching and learning material (textbooks) as teaching tools, limit learners from gaining new skills that will empower them to be independent in their own studies. Eaton (2010) adds to this by emphasising that in recent years, language education has no longer been based on grammar, memorisation and learning by rote. These days, the emphasis is on language as a means of communication and creating relations between people around the world. It is therefore important that Sesotho (and other language) teachers keep up with new developments in teaching, such as using ICTs, and that they are able to integrate modern ways of teaching into teaching a language such as Sesotho.

The introduction of ICTs is one of the initiatives by the DoE that promotes the use of ICTs in teaching. ICT-related innovations are beneficial to Sesotho teachers because they bring changes to the pedagogical practices of the teachers. They enable teachers to move away from depending on traditional pedagogical practices such as the textbook approach. ICTs have the ability to rekindle pedagogical practices by “enhancing an already practiced knowledge and introducing new ways of teaching, preparing lessons using the internet, using interactive games to introduce grammar lessons, and [through]

film viewing for literature classes” (Rosa, 2016:43). Changes made to the pedagogical practices influence learners’ perceptions of subjects like Sesotho.

Although the South African government is coming up with such important initiatives, it is important that the most important aspect to consider is the ability of teachers to put these initiatives into practice. Many schools in South Africa have been provided with ICT facilities, such as top-of-the-range computer labs, to ensure that the goal of the e-Education policy is achieved. The policy states that “every learner in the general and further education phase will be capable to use ICTs effectively and be able to participate in the global community by 2013” (DoE, 2004:17). The Curriculum and Assessment Policy Statement (CAPS) document serves as a guideline for teachers on their subject disciplines. The document states that one of its aims is to produce learners that will be able to use technology effectively (DBE, 2011). However, it does not provide any stipulations or guidelines on how teachers should use ICTs to teach effectively. It does not direct teachers on how to achieve its aims. Therefore, this study explores teachers’ perspectives on the integration of ICTs into the teaching and learning of Sesotho as a teaching subject in secondary schools.

As a teacher currently teaching at a secondary school, the researcher is aware that in many schools, computers are mainly used for Information Technology (IT) and Computer Application Technology (CAT) subjects. The problem with this is that these ICT facilities do not benefit the integration of ICTs into the teaching of other subjects, such as Sesotho, and do not benefit other school learners who are not interested in learning technology as a subject. Integrating ICTs into a home language such as Sesotho will benefit many learners and improve the reputation of this subject as one of low economic value. This study intends to unpack teachers’ views, understandings and experiences on the integration of ICTs into the teaching and learning of Sesotho through the research questions and objectives to follow.

## **1.4 Research Questions**

The main research question for this study is: What are the perspectives of Sesotho language teachers on the opportunities and challenges of ICT integration into the teaching and learning of Sesotho?

The secondary research questions are:

- What are Sesotho teachers' views and understandings of ICT integration into the teaching and learning of Sesotho?
- How can Sesotho teachers' perspectives of ICT integration for teaching Sesotho be understood and described?

## **1.5 Research Aim and Objectives**

The main aim of the study is to explore the perspectives of Sesotho language teachers on the opportunities and challenges of ICT integration into the teaching and learning of Sesotho.

The main objectives of the study are:

- To explore Sesotho teachers' views, understandings and experiences of ICT integration into the teaching and learning of Sesotho.
- To describe Sesotho teachers' views, understandings and experiences of ICT integration into the teaching and learning of Sesotho.

## **1.6 Theoretical Framework**

This study is informed by two theoretical frameworks, namely constructivism and the technological pedagogical content knowledge (TPACK) model.

### **1.6.1 Constructivism**

Constructivism is a learning theory that mainly focuses on the construction of new knowledge based on prior knowledge (Koohang, Riley & Smith, 2009). The constructivist

approach sees the learner as an active agent in the teaching and learning environment (Bada, 2015). The role of a constructivist teacher, therefore, is to create a learner-centred environment by facilitating the teaching and learning process in the classroom and to guide the learners' active processes. Through integrating ICT as a learning resource into the daily teaching and learning process, learners are exposed to innovative ways of learning (Steketee, 2006). The DoE (2013) affirms that ICTs have the ability to change a teacher's pedagogical practices from traditional to more task-orientated practices.

ICT integration into pedagogy completely discourages passive learning; rather, similar to the constructivist principles, it encourages and emphasises learner-centred teaching practices. These enable learners to construct active meaning and to apply higher order thinking skills such as problem-solving and critical thinking (Lin & Zhang, 2018). Overall, constructivism emphasises the idea that knowledge is not fixed, but that learners actively construct knowledge themselves based on prior knowledge and the views that they have of the world (Baker, 2000). In addition, learners have the support and guidance of the teacher as a facilitator in the classroom. The framework is suitable for the study as it guided the researcher in exploring perspectives of Sesotho teachers on ICT integration into the teaching of Sesotho. It enabled the researcher to gain insight into the challenges and opportunities that teachers experience as they integrate ICTs into pedagogy.

### **1.6.2 The technological pedagogical content knowledge (TPACK) model**

The second framework that guides this study is TPACK. The framework focuses on how teachers integrate their technological, pedagogical and content knowledge into their teaching (Thompson & Mishra, 2007). According to Archambault and Crippen (2009:7), "TPACK involves an understanding of the complexity of relationships among students, teachers, content, technologies, and practices." For this study, it is important to explore ways in which teachers of Sesotho understand and practise the integration of ICTs into the teaching of content. Teaching has evolved over a number of decades with regard to the availability of tools used to impart knowledge and teachers who are trained to teach. The changes in the teaching profession have escalated the complexity of the teaching process, namely "understanding of content, understanding of teaching and understanding of technology" (Koehler & Mishra, 2009:67). Thus, the TPACK framework is suitable for

this study, which focuses on understanding the teaching of Sesotho content with the use of ICTs. The TPACK framework guided this study in unpacking different knowledge components and allowed the researcher to make sense of how teachers integrate these components into the teaching of Sesotho content.

Both the constructivism and TPACK models outline the pedagogical practices that enhance the teaching and learning of a particular subject. Both models allowed the researcher to make sense of how technology, pedagogy and content knowledge align with teacher perspectives in the integration of ICTs into the teaching of a specific subject, Sesotho.

## **1.7 Summary of the Methodology**

A qualitative research approach involving a multiple-case study was employed in addressing the research questions of this study on teacher perspectives on the integration of ICTs into the teaching and learning of Sesotho. The qualitative research approach “deals with the underlying qualities of subjective experiences and the meanings associated with phenomena” (Du Plooy-Cilliers, Davids & Bezuidenhout, 2014:229). The approach enabled the researcher to explore teachers’ perspectives on and the meaning they attach to ICT integration into the teaching of Sesotho. It also enabled the researcher to collect data from schools where teachers of Sesotho “experience the issue or problem under study”, in this case, the integration of ICTs into teaching and learning (Creswell, 2014:185). The multiple-case-study method was employed because data were to be collected from a number of schools on different quintile levels (quintiles 1, 2, 3 and 4) (Yin, 2012). Therefore, the approach assisted the researcher to explore and compare the views and understandings of teachers from different schools with regard to ICT integration.

Purposive sampling was utilised in this study. In this type of sampling, the researcher chooses the sample which is most relevant for the study and which will yield the required results (De Vos, Strydom, Fouche & Delport, 2011). Data were collected through lesson plans, semi-structured interviews and education policy documents. Firstly, lesson plans were collected of the first semester (January to May) of 2019 from the 12 secondary

school Sesotho teachers belonging to the two clusters in the selected district. These teachers had been teaching Sesotho from Grades 8 to 12 as a home language and had had five or more years' teaching experience of the subject. The lesson plans were studied and analysed.

Based on whether the participating teachers represented quintiles 1, 2, 3 or 4 and integrated ICTs into their teaching, some were selected for further participation in semi-structured interviews. These participants were able to share their transition experiences from teaching without using ICTs to that of integrating ICTs into their teaching. Participants were interviewed to gain insight into their experiences of teaching using ICTs. Interviews enabled verbal communication between researcher and participant(s), and participants were able to verbally communicate the reality of their social worlds (Ritchie, Lewis, Nicholls & Ormston, 2014). The interviews therefore enabled the participants to verbally share their beliefs, views and understandings of the integration of ICTs into the teaching of Sesotho. The views elicited from the interviews were summarised into themes. The preliminary findings were shown to the participants to ensure that they agree with the accuracy of the findings (Creswell, 2014).

Data were also collected by means of education policy documents. CAPS, the ICT policy document and language policy document were used to support evidence arising from the semi-structured interviews. The data collected were triangulated to ensure validity. In addition, preliminary findings were shown to the participants to ensure that they agree with the accuracy of the findings (Creswell, 2014).

## **1.8 Significance of the Study**

This study is significant in a number of ways. Firstly, the study may benefit language teachers by helping them to understand that ICT plays an important role in education. ICT is part of our everyday lives and therefore forms a big part of the curriculum. The study has identified the knowledge and skills that Sesotho teachers have regarding the use of ICTs for teaching, as well as the areas in which they struggle. The findings of this study may therefore serve as an eye opener towards the views and understandings of Sesotho teachers when it comes to integration of ICTs into pedagogy.

Another aspect of importance is that, through this study, the significance of the ability of teachers of Sesotho to use ICTs in their practices may be addressed and recognised. This is because “ICTs have the ability to accelerate, enrich, and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow’s workers, as well as strengthening teaching and helping schools change” (Yusuf, 2005:317). The study may also inspire pedagogical practices that encourage learners to understand the value of Sesotho and to enjoy learning it. Sesotho teachers may be enabled to realise that using ICTs in teaching Sesotho develops higher order skills such as learners’ ability to solve problems and to think critically (Bhattacharya & Sharma, 2007).

Thirdly, from a personal point of view, the researcher is a Sesotho teacher and throughout her four years of teaching experience, has realised that the value of this language is declining and that learners are losing interest and taking the language for granted. The reason for this is that they associate this subject (language) with being “old” and “underdeveloped”. The researcher believes that if new developments can be made in pedagogical practices – such as the incorporation of ICTs during the teaching and learning process – learners will relate better to Sesotho. Subsequently, they may develop an interest in learning the language, which will also improve their results. This may lead to better perspectives of the subject.

Finally, it is also important to note that a number of studies on ICT integration for teaching languages (especially English) have been conducted (Liu et al., 2017; Parvin & Salam, 2015; Rosa, 2016), concluding on the importance of ICTs in teaching languages and how it enhances learning. Although this is the case, no studies have been done on ICT integration into the teaching of Sesotho as one of the South African languages taught in schools. This study has addressed this gap by examining the perceptions and experiences of teachers of Sesotho on ICT integration into their teaching. Liu et al. (2017) state that it is important that more research with regard to the teachers of a specific subject should be done, as this will give us a better understanding of the teachers’ views and experiences related to technology.

## **1.9 Delimitations**

Sesotho teachers from a cohort of two clusters of secondary schools in the same district were selected to participate in the study. The participants were from 12 secondary schools that belong to quintiles 1 to 4 in the district. From the lesson plans studied, those participants whose lesson plans indicated integration of ICTs into teaching and learning were selected for further participation in the study by means of interviews. This multiple-case study employed lesson plan analysis, interviews and document analysis to gain in-depth knowledge on the participants' views and understandings of the integration of ICTs into their teaching practices. However, the data collected were from teachers from different schools belonging to different quintiles (1 to 4) from two clusters of the same district. It thus has to be applied carefully to other teachers; for example, those who are:

- from similar quintiles and teach a similar curriculum;
- from different schools and are different subject teachers; and
- in the same country with similar challenges on the integration of ICTs into their practice.

## **1.10 Limitations**

The data for this study were collected from Sesotho teachers from the two clusters of secondary schools that fall under different quintiles in the same district and are integrating ICTs into their teaching. Two limitations were identified for this study. Firstly, the researcher is a Sesotho teacher for Grades 8 to 12 in a secondary school in the district from which participating schools were selected and is also a member of one of the participating clusters. This might have influenced participants' responses in the study. However, a number of steps were taken to overcome this challenge and to ensure validity of the data collected. These include: asking the same questions using different phrases; using more than one source of data for triangulation; involving an external auditor to perform an audit to review some aspects of the research, such as transcription, research questions and their relevance to the data, and data analysis before the study was concluded (Creswell, 2014; Maree, 2016); and member checking.

Secondly, participants were selected for interviews on the basis that they integrate ICTs into their teaching. ICT resources need to be available in schools for teachers to integrate them into their teaching. Since some of the schools selected had no ICT resources to be utilised for teaching and learning at the time of the study, this could have affected the results. This study therefore raised the challenges faced by the schools that lack and/or have no ICT resources, as the White Paper on e-Education (DoE, 2004) states that ICT is a platform for better learning methods and enhanced quality of teaching and learning.

### **1.11 Definition of Key Terms**

**Curriculum** – The curriculum defines what teachers must teach and what learners must learn, and what is to be assessed. The curriculum is in the form of a programme which directs teaching, learning and assessment.

**District** – A unit that administrates a public-school system which comprises of a number of towns within a state.

**Home language** – The language first acquired by children through immersion at home; the language in which an individual thinks (DoE, 2013).

**Information and communication technology (ICT)** – This includes ICT devices as well as platforms that are used for the purpose of teaching and learning, such as the internet, e-learning, social media platforms such as WhatsApp, and software programmes such as Microsoft PowerPoint, Word, and Excel, etc.

**ICT integration** – Using the abovementioned ICTs to teach a particular subject.

**In-service teacher** – A teacher that has a certificate in teaching and is working full time or part time as a teacher.

**Secondary school** – A high school which ranks between primary school and college or university and offers Grades 8 to 12.

**Sesotho** – Sesotho is an indigenous South African language. It is taught in some South African schools on Home Language level. The CAPS document (DBE, 2011) defines a home language as the first language that learners learn at school.

## **1.12 Chapter Outline**

CHAPTER 1: This chapter gives a brief overview of what ICT currently means, and of the impact it has in education. Background is provided on the developments brought on by ICT integration into pedagogy. In addition, the problems that cause teachers not to integrate ICTs when they teach are also explained. The chapter presents the research questions and objectives and clearly indicates why there is a need for the study to be conducted.

CHAPTER 2: This chapter reflects on what literature says about ICT integration into teaching, especially with consideration of teaching the South African language Sesotho. The gaps in the literature are identified. Arguments are based on the current state of ICT availability in schools and how the matter builds up the perceptions and experiences of teachers of Sesotho on ICT integration. Teacher development as an important initiative to prepare teachers for ICT integration into pedagogy also receives focus.

CHAPTER 3: Chapter 3 provides details about the research approach, which is qualitative. It gives a clear explanation for the choice of the approach and explains the procedures on how data were collected by defining the sample, giving the reasons for the choice of the sample and research design, and describing ways in which the researcher ensured validity and reliability. It also outlines the ethical considerations.

CHAPTER 4: This chapter provides the findings and discussion of the results from the data. Through data analysis, answers to the research questions are identified. The chapter provides an accurate reflection of the views and perspectives of the participants on ICT integration into pedagogy.

CHAPTER 5: In this chapter, a brief summary of the study is presented. Conclusions are drawn and recommendations given for future studies.

## **1.13 Summary of the Chapter**

The first chapter of the study presented the introduction and background of the study. Furthermore, the discussion explored the problem statement, followed by the research aims and objectives. In addition, there was a brief discussion on the theoretical and contextual framework underpinning the study (which will be further discussed in Chapter 2), as well as the methodology (to be discussed further in Chapter 3). The significance of the study was discussed and the limitations and delimitations were pointed out. In addition, the key terms were defined, and finally, the chapter presented an outline of all the chapters in this study. The following chapter presents the literature review and related theories.

## **CHAPTER 2: LITERATURE REVIEW AND RELATED THEORIES**

### **2.1 Introduction**

The literature review for this study is divided into two sections, namely the literature review and the theoretical framework. This study also focuses on literature relating to language of instruction in South African schools and different school contexts with respect to the socio-economic status of South African schools and how it affects the integration of ICTs into teaching and learning. Furthermore, it draws on literature that examines teachers' perspectives on ICT integration for teaching and learning.

This will be followed by literature on the theoretical and conceptual frameworks guiding the study to gain insight into Sesotho teachers' views and understandings on the integration of ICTs into the teaching of Sesotho. Firstly, constructivism will be discussed. This will be followed by a discussion on TPACK to explore teachers' perspectives on the integration of ICTs, with specific focus on the subject Sesotho and different school contexts. The discussion on the TPACK framework includes brief definitions of the six categories of the framework. Hereafter, the framework's applications and limitations and justification for its use in the study are presented. Lastly, the rationale for using constructivism and TPACK as theoretical frameworks for the study are discussed, with the chapter closing by pointing out gaps in the literature.

### **2.2 Language of Instruction in South African Schools**

Language is one of the aspects that contributes to the rich cultural identity of South Africa. Although the country has 11 official languages, their usage in society is more related to power, status and class (Gudmundsdottir, 2010) and this is becoming a norm even in the education system. Mda (2018:366) states that "resistance to the official use of African languages as language of instruction has surfaced among South Africa's African minority, many whom contend that their children should be exposed to and immersed in English, which is rapidly becoming the language of commerce and politics in South Africa, as early

as possible". In many Western countries, learners are taught school subjects in their mother tongue. However, this is not the case in African countries, including South Africa. According to Brock-Utne and Skattum (2009), in Western countries, having a mother tongue as language of instruction is highly acceptable and practised in schools.

Many countries in Africa expect teachers to conduct reading and writing lessons in a language which teachers are both inexperienced in and unfamiliar with (UNESCO, 2010). This becomes a problem because neglecting a language that a learner speaks on a daily basis for a new language to be the medium of instruction may result in challenges when it comes to acquisition. In the context of South Africa's education system, the language of instruction from Grades 1 to 3 is learners' mother tongue. From Grades 4 to 12, learners will then be instructed in English or Afrikaans and their mother tongue will be one of the subjects that they are taught in schools. However, this transition comes with challenges and requires learners to be well prepared, as "neither adequate support materials nor additional support are provided in the transition period" (Gudmundsdottir, 2010:176).

The above paints the disturbing picture of the inequality in South Africa in terms of the standards given to the languages in the country. South African languages, except English and Afrikaans, are regarded as not good enough or suitable to be languages of instruction for teaching and learning. The negative perceptions regarding these languages as languages of instruction for teaching and learning have also influenced learners' perspectives of these languages. Webb et al. (2007) conducted a study on African languages as medium of instruction in primary schools in South Africa. The findings indicate that learners disregard African languages as useful for communication in high-status contexts, for example in teaching, government announcements and parliamentary seminars. The findings also indicate that these languages' statuses are very low and that they are associated with people of low social status. Although the Constitution of South Africa (South Africa, 1996) states that all African languages must receive the same level of honour and respect and be treated equally, it is evident that there is a gap between the Constitution and practices in terms of the status of languages, specifically in education.

In most cases, African teachers and learners communicate with people around them in their mother tongue and only use English or sometimes Afrikaans when they are in the

classroom. In some instances, they even have to switch from the language of learning and teaching (LOLT) to the home language/s to simplify the content and explain some concepts. Desai (2001) conducted a study on multilingualism in South Africa, with particular reference to the role of African languages in education. Learners and teachers who took part in the study were from a mainly Xhosa environment (Khayelitsha, Cape Town) and all used Xhosa as their home language. Yet, teaching and learning had to occur in English, and participants thus had to express themselves and write in a language that is “foreign” to them. The same situation applies to the selected district in the Free State province, where Sesotho is the mother tongue of the majority of teachers and learners. Although it is taught as a home language in many secondary schools, it is not used as a language of instruction.

Oftentimes, in many schools where Sesotho is offered as a subject, it is not granted the same value as other subjects. In most cases, one may find that, unlike with subjects like Mathematics, Science and English, little effort is made to ensure that the subject has the learning material that will contribute to enhancing the teaching and learning of the subject. Although this is the case, one cannot blame the “schools” or “teachers” for this problem. This is because we currently live in the digital age. If, for example, a school does not have textbooks, ICTs can thus be of assistance to ensure that the teaching and learning continues to take place. It may take place through using the internet to search for information; PowerPoint and Microsoft for presentations; and cell phones and social media to share information. It is difficult to achieve this with Sesotho, though, because, as Olivier (2016:7) states, “despite the existence of some online content, the amount of content and academic discourse in Sesotho is limited.” The author continues to state that besides a few “online resources”, literature is silent about the “Sesotho internet language landscape”. This is why it is important to explore how different ICT resources are integrated into the teaching and learning of Sesotho and how integration can assist in ensuring improvement in the language as a subject taught at schools.

## **2.3 Different Contexts of South African Schools and ICTs**

In recent years, ICTs have become operative in educational settings, bringing drastic changes and developments in the teaching and learning environment (Khan et al., 2012). In the past, teaching and learning used to depend on materials such as textbooks, chalk and boards. This study, however, will focus on the new ICT resources that are used for teaching and learning and which enable critical thinking and motivate learners to be independent in their own studies. It is important to note that for ICTs to be effectively integrated into teaching and learning, ICT resources must be available in schools. On the goal of developing e-schools in South Africa, the DoE (2004:18) states that “the department will determine and revise regularly the basic ICT tools to each institution in being an e-school to ensure equity and guide the department and the schools in implementation of ICT”. This was in 2004. A decade later, Nkula and Krauss (2014) conducted a study on the integration of ICTs in marginalised schools in South Africa. Findings indicate that although the vital role of ICTs in improving the teaching and learning process and developing the value of the curriculum is highly recognised, there are still many schools in South Africa that do not have ICT resources. This highlights the importance for the DoE to identify those schools that have ICT resources and to assist those who up to date still do not have access to ICT tools to ensure that the e-school goal is achieved.

According to the South African Schools Act (No. 84 of 1996), schools are classified into quintiles by the minister of Basic Education according to the socio-economic status of the surrounding areas. Factors such as the surrounding infrastructure, the number of homes in the area made from brick, wood, iron sheeting, etc. are considered when categorising schools into quintiles. The quintiles rank from one to five – one being schools in the poorest areas and five being those in the wealthier areas. The schools in quintiles 1 to 3 are no-fee schools and are therefore wholly subsidised by the government, and those in quintiles 4 and 5 are fee-charging schools and are partially subsidised by the government.

The DBE (2011) states that it aims to produce learners that will be able to use technology effectively. In addition, the e-Education goal was that “every learner in the general and

further education phase will be capable to use ICTs effectively and be able to participate in the global community by 2013” (DoE, 2004:17). Sadly, these policies apply to all schools in the country regardless of their socio-economic status, availability and effectiveness of their ICT resources and school infrastructure. According to Hennessy, Ruthven and Brindley (2005), it is important to note that school context has an influence on teachers’ use of ICTs. In most cases in South Africa, schools in the poor communities, which depend on government for funding, experience the unavailability of resources. Learners in such schools remain digital immigrants because of the lack of ICT resources such as computers, internet and projectors (Du Plessis & Webb, 2012). It is therefore important to conduct this study because it addresses the issue of the digital divide and how it affects the integration of ICTs into teaching and learning in South African schools.

## **2.4 Policies on ICT usage for teaching languages**

The integration of ICTs into curricula is important; therefore, many countries have implemented ICT policies for the teaching and learning of various subjects. For example, the Nepal Ministry of Education instructed teachers to integrate ICTs into their lesson planning and in their classroom practices (Laudari & Maher, 2019). It is important that the stipulations within the policies guide teachers on the effective integration of ICTs into the teaching and learning of their subjects, although that might not always be the case. Bosco, Valero and Gil (2016) affirm this by stating that policies focus mainly on provision of ICT resources and how they are used as instruments in schools, and not so much on the actual integration within the pedagogical classroom practices. Lopez and Torres (2016:87) state that in September 2009, Spain initiated a one-laptop-per-child policy which aimed to “provide accessible equipment and digital content from all schools to integrate ICT in to school life, enhance material resources and teacher training”. In 2013, however, the programme encountered challenges due to economic challenges in Spain and this led to the lack of ICT usage for teaching and learning.

The ICT policies in the whole world have a common goal of preparing the youth for the 21<sup>st</sup> century in terms of the digital developments (Claro & Jara, 2020). It is, however, important to know that the actual implementation of these ICT policies has its challenges.

Teachers and learners are the ones who mainly experience these challenges because they are the role players in the classroom. Miima, Ondigi and Mavisi (2013) explain that the Kenya Institute of Education introduced an ICT-integration policy on the teaching of secondary school subjects to promote learner-centred pedagogical practices. The initiative was not effective, however, because the learners' backgrounds and teachers' TK were not taken into consideration, and these resulted in teachers' continuous use of traditional pedagogical practices. Another factor that needs to be taken into consideration is that for ICT policies to be implemented, schools should have ICT resources available. Blignaut (2002) states that in South Africa, teachers do not have ICT resources for teaching and learning purposes; therefore, the level of ICT integration is still very low. In addition, Bosco et al. (2016: 214) argue that "policy-makers do not know the real needs and characteristics of the schools. Their physical presence in them is so rare, so much so that despite the traditional emphasis put on equipment, notable by their absence are the lack of service and maintenance of the digital infrastructures". The "one size fits all" approach in ICT policies is unfair because the policies seem to generalise and not consider the fact that schools have different challenges that may hinder them from putting the policy expectations into practice.

According to Widodo (2016), language policies play an important role in the planning and enactment of the language curriculum in classroom practice. The author further states that language policies outline the design of the language curriculum. Many countries have prioritised ICT policies on the teaching of languages. For example, Kuddus and Khan (2020:2) states that in Bangladesh, "digital technologies are made available in the classrooms for the successful technology enhanced language learning and teachers are given special training in the use of ICT". It is therefore important to study teachers' views and understandings of these ICT policies and initiatives in the teaching and learning of an African language, Sesotho.

## **2.5 ICT Professional Development for Teachers**

Around the world, a lot of attention, interest and money are invested in the use of ICTs in education as a strategy to improve teaching and learning (Yuen, Law & Wong, 2003). Jita

(2018:74) argues that “not enough attention, however, has been paid to the preparation of teachers to use ICT tools for teaching”. The availability of ICT resources does not have much effect if the actual integration of ICT into teaching and learning does not take place. Backenmeyer (2010:27) states that “the challenge is not getting appropriate technology into classrooms, but getting those in classrooms prepared to use those technologies, and facilitating greater willingness to incorporate changing technologies as they develop”. Similarly, Tondeur, Baruch, Prestridge, Albion and Edirisinghe (2016) argue that transformation in education is not determined by the availability of ICT tools, but by whether and how teachers utilise the ICT tools that are available in schools. Hutchison and Reinking (2011) conducted a study on teachers’ perceptions of integrating ICTs into literacy instructions. The findings indicate that teachers lack specific knowledge about technology and the process of integrating it with the existing PCK to enhance learning. Similarly, Honan (2008) indicates that teachers have limited knowledge and experience of ICTs in teaching contexts. It is thus evident that teachers lack in-service training on the use of ICTs, specifically for the teaching of their subject content.

Although a number of professional development trainings on ICTs continue to be conducted, one may wonder if they serve their purpose – equipping teachers with the skills and knowledge to effectively integrate ICTs into the teaching and learning of the specific subject that they teach. Kartal et al. (2018:2) argue as such:

... too often professional development does not follow teachers back to the classroom where teachers may face some challenges and problems while translating their new understanding into performance. The limited time in these professional development programs does not allow this.

Most of the ICT professional development programmes are not continuous and do not reflect to see if they had made an impact or progress in the teachers’ pedagogical content practices. According to Afshari, Bakar, Luan, Samah and Fooi (2009), teachers tend to integrate ICTs more in their practice when the ICT professional development training provides them the opportunity to practise using the technologies to learn, share and collaborate with colleagues. Jimoyiannis and Komis (2007:154) discuss the ICT

professional development training project that took place in Greece between 2003 and 2004:

... the project aimed at offering teachers basic ICT knowledge and skills, in order to be able to make effective use of computer applications in their instruction. The whole course lasted 48 hours in total. The curriculum content comprised basic ICT concepts, office applications (such as word processing, spread sheets and presentation software) and the internet use.

The way ICT professional development is handled is quite disturbing and does not match the expectations directed to teachers with regard to ICT integration for teaching and learning. This begs the question on whether or not the time and effort invested in ICT professional development trainings are enough to ensure that teachers are well trained and do progress in integrating ICTs when teaching.

Dlamini and Mbatha (2018:28) argue that ICT professional development mainly equips teachers with basic computer skills; however, the teachers are expected to have the knowledge on how to integrate ICTs into their practice effectively. According to them, “it is evident that teachers’ ICT professional development needs are inadequately addressed by the current ICT professional development activities, thus the slow adoption and ineffective ICT integration in the classroom” (Dlamini & Mbatha, 2018:28). Lachica (2015) states that it is necessary to allow the end users to voice out the challenges and opportunities of integrating ICTs into the teaching and learning of their specific subjects. This study may therefore provide the platform for Sesotho (and other) language teachers to voice out their challenges and opportunities of integrating ICTs in teaching their subject.

## **2.6 Teachers’ Perspectives on ICT Integration for Teaching and Learning**

According to Sang, Valcke, Van Braak and Touder (2010), a number of factors can influence the integration of ICTs into teaching and learning. Some of these factors cannot be changed, for example number of years in the teaching field and age of teachers. This part of the literature review, however, focuses on factors that can be influenced or

changed, such as the number of learners in classrooms and teacher attitudes towards ICT integration into teaching and learning.

### **2.6.1 Classroom sizes**

One of the responsibilities of teachers is to manage and ensure that effective teaching and learning takes place in classrooms regardless of their sizes. Fu (2013) argues that one of the barriers to effective ICT integration from the teacher's perspective is the large classroom sizes in schools. According to Hadzilacos, Mavroudi, Georgiou, Otero and Muller (2016:70), when a classroom lacks or has no ICT resources, a teacher is discouraged from planning lessons requiring ICTs. The authors further indicate that a "class composed of a large number of students must take you much time to control and manage, let alone when you want to try something new such as using ICT to teach" (Hadzilacos et al., 2016:70). For effective integration of ICTs into teaching and learning to take place, every learner must have access to the necessary ICT resources. However, this becomes difficult to achieve with a large number of learners in the classroom. According to Sang et al. (2010:163), "[c]lassroom ICT use aims to support and enhance the actual teaching and learning process, such as the use of computers for demonstration purposes, drill and practice activities, modeling, representation of complex knowledge elements, discussions, collaboration, project work, etc." Chigona, Chigona, Kayongo and Kausa (2010) state that if the number of learners is higher than the number of the ICT tool(s) (e.g. computers) being used for teaching and learning, this may result in less ICT exposure for some learners. Only those using the tool would benefit, with the rest simply being followers and viewers. It is therefore important to ensure that the integration of ICTs into teaching and learning is practised to achieve its goals and that all learners may benefit from the process.

### **2.6.2 Teacher attitudes**

Being a teacher comes with a number of responsibilities, such as daily lesson preparation, conducting the teaching and learning process in the classroom, assessment, classroom management and taking part in extra-curricular school activities. The main requirement for a teaching job is a teaching qualification which states an area of specialisation in

teaching. The teacher should be able to deliver the subject content to the learners and ensure that they obtain good results in the subject they teach. According to Olivier (2016), recently, due to opportunities and technological skills, there is a pool of teachers who play different roles in supporting learners in different areas of teaching and learning. The author continues by stating that this pool of teachers will be exposed to different responsibilities, which include ICT skills and knowledge for teaching. The demand for teachers to integrate ICTs into their teaching has increased due to ICTs' ability to enhance and improve the teaching and learning of various subjects.

However, educational policies do not stipulate how teachers should go about meeting these demands. According to Jita (2016:36), "in a context where there are no guidelines for teachers on how to integrate ICT into teaching various subjects, one wonders if teachers are going to be successful in using ICT skills in the classroom." This is a worrying factor because, although these demands are stated in the DoE policies, they are left in teachers' hands for implementation. Hutchison and Reinking (2011) argue that although the challenges of ICT integration have been discussed in literature, there is silence on the challenges that teachers themselves experience when it comes to the integration of ICTs into teaching. It is for this reason that this study creates a platform to explore teachers' views, understandings and experiences on ICT integration for teaching and learning.

Attitude has the power to determine a person's views and understanding on a particular matter. The attitude of teachers on the integration of ICTs is a fundamental factor and may determine the willingness of teachers to integrate ICTs into their classroom practice (Bas, Kubiato & Sünbül, 2016; Jimoyiannis & Komis, 2007). In addition, Fu (2013:118) argues that "teachers' attitudes towards technology significantly predict teacher and student technology use, as well as the use of a variety of instructional strategies". One of the factors that causes teachers' lack of confidence in integrating ICTs into their classroom practice is low levels of ICT skills (Chigona et al., 2010). Most learners these days are technologically driven because they were born in the digital era, where they are exposed to various technologies around them. According to Bingimlas (2010:238), "many teachers who do not consider themselves as well skilled in using ICT feel anxious about using it in front of a class of children who perhaps know more than they do." This

contributes to why many teachers stick to their old pedagogical practices and avoid using ICTs in the classroom.

## **2.7 Theoretical and Conceptual Framework**

The study made use of two theoretical frameworks, namely constructivism and the TPACK model.

### **2.7.1 Constructivism**

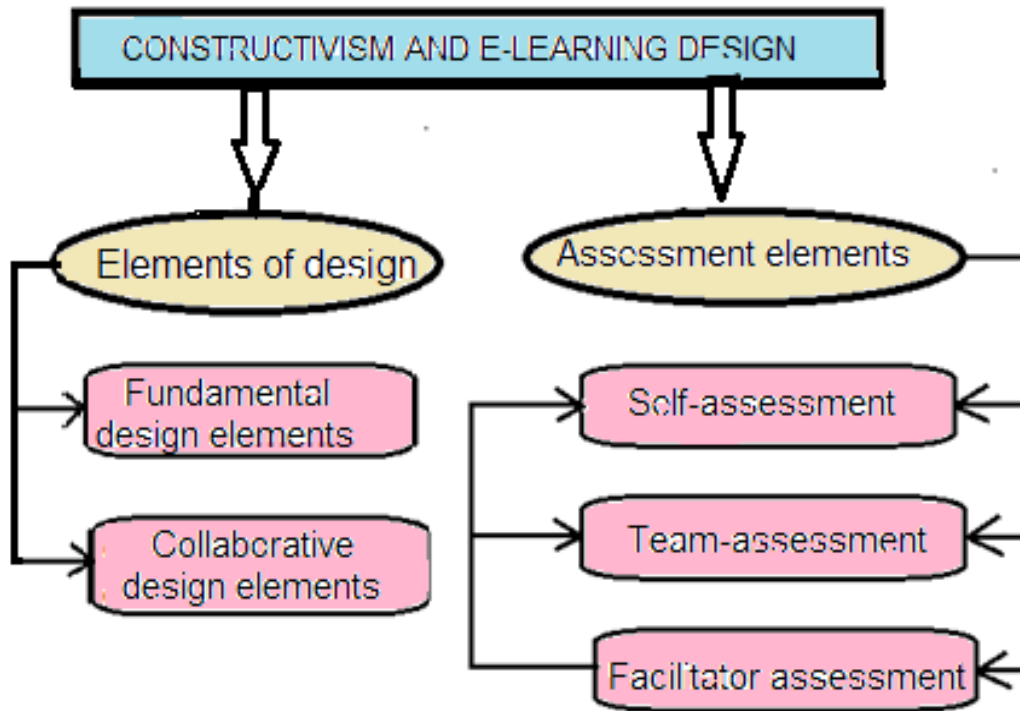
Constructivism is a learning theory that mainly focuses on the construction of new knowledge based on prior knowledge (Koochang et al., 2009). Vygostsky, Piaget, Dewey, Vico, Rorty and Bruner initiated and contributed to constructivism as a learning theory (Lachica, 2015). The constructivist approach sees the learner as an active agent in the teaching and learning environment “through actively constructing or creating their own subjective representations of objective realities” (Bada, 2015; Lachica, 2015:3). Therefore, the role of a constructivist teacher is to create a learner-centred environment by facilitating the teaching and learning process in the classroom and to guide the learners’ active processes. Through integrating ICTs as a learning resource into the daily teaching and learning process, learners are exposed to innovative ways of learning (Steketee, 2006). The DoE (2013) affirms that ICTs have the ability to change a teacher’s pedagogical practices from traditional to more task-orientated practices.

ICT integration into pedagogy completely discourages passive learning. Rather, similar to the constructivist principles, it encourages and emphasises learner-centred teaching practices, enabling learners to construct active meaning and to apply higher order thinking skills such as problem-solving and critical thinking (Lin & Zhang, 2018). Overall, constructivism emphasises the idea that knowledge is not fixed, but that learners actively construct knowledge themselves based on prior knowledge and the views that they have of the world (Baker, 2000). They do this with the support and guidance of the teacher as a facilitator in the classroom.

Ahmad, Ching, Yahaya and Abdullah (2015:1957) conducted a study on the relationship between constructivist learning environments and educational facilities in science

classrooms. The results from the study indicate that “[e]ducational facilities, physical learning environment and technical specifications are needed to be considered in order to plan and construct effective constructivist learning environment in school” (Ahmad et al., 2015:1957). The learning environment plays a major role in the effectiveness of ICT integration into teaching and learning. Hence, it is important that the classroom environment consists of the necessary ICT tools for the teaching and learning process.

Koohang developed a model based on constructivism learning theory in e-learning environments (Koohang et al., 2009). The model is presented in Figure 2.1. It includes three categories of elements in constructivism: the design of learning activities, learning assessment and instructor roles. Design of learning activities includes collaboration, cooperation, multiple perspectives, real-world examples, scaffolding, self-reflection, multiple representations of ideas, and social negotiation. Learning assessment elements consist of assessments conducted by the teacher, among learners themselves and those where a learner assesses his/her own work. The teacher’s roles include coaching, guiding, mentoring, acknowledging, providing feedback and assessing learners’ learning process.



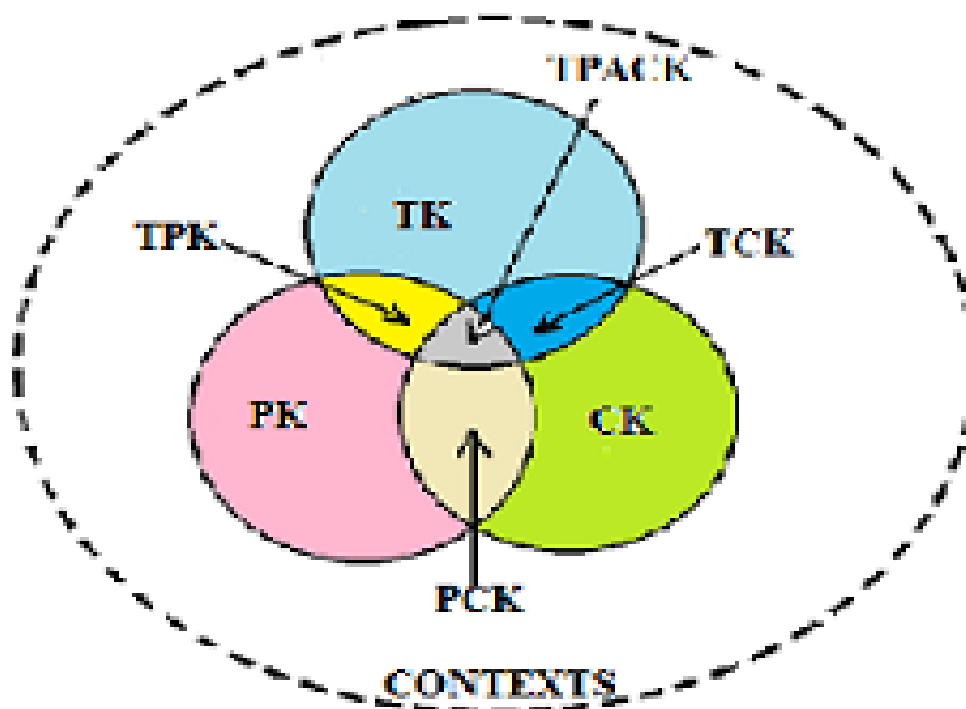
**Figure 2.1: Constructivism elements and e-learning-design learning activities**

Adapted from Koohang et al. (2009:95)

Constructivism advocates for ICT integration into teaching and learning as a process that enables teachers to apply different pedagogical practices using technology when teaching their subject. This process also enables learners to use their prior knowledge in constructing new knowledge. The technological pedagogical content knowledge (TPACK) model

The second framework that guided this study is TPACK. This framework builds on Shulman's (1987), whereby PCK is used to "describe how teachers' understanding of educational technologies and PCK interact with one another to produce effective teaching with technology" (Koehler & Mishra, 2009:62). According to Koehler, Mishra and Cain (2013), the TPACK model consists of the three main components of teachers' knowledge. The first is content knowledge (CK), which refers to the knowledge about the subject matter, in this case Sesotho. Secondly, there is pedagogical knowledge (PK), which is

based on the teacher's knowledge and application of teaching methods and everyday teaching and learning processes that take place in the classroom. The last component is TK, which refers to the teacher's knowledge of using different technologies for the purpose of teaching and learning. The framework does not focus on the three main knowledge concepts individually, but rather on the interaction between them, as displayed in Figure 2.2.



**Figure 2.2: Technological pedagogical content knowledge (TPACK) model**

Adapted from Koehler et al. (2013:3)

As seen in Figure 2.2, Koehler et al. (2013) argue that the TPACK model includes the vital interactions between the three main knowledge components. Pedagogical content knowledge (PCK) is about the teacher's interpretation of the subject matter, applying of strategies to deliver the content, and adapting and using of different teaching and learning materials. Technological content knowledge (TCK) is the knowledge on ways in which technology can construct new learning developments for a specific subject's content. Technological pedagogical knowledge (TPK) is about possessing the knowledge on

changes that can be brought about by the integration of technologies into the teaching and learning of the subject. This includes knowing and applying different pedagogical practices using different technological tools. Lastly, TPACK refers to the teacher's ability to integrate ICTs into the teaching and learning of the subject matter.

The TPACK framework focuses on how teachers connect their technological, pedagogical and content knowledge (Thompson & Mishra, 2007). According to Archambault and Crippen (2009:7), "TPACK involves an understanding of the complexity of relationships among students, teachers, content, technologies, and practices." For this study, it is important to explore ways in which teachers of Sesotho understand and practise the integration of ICTs into the teaching of content. Teaching has evolved over a number of decades with regard to the availability of tools used to impart knowledge and teachers who are trained to teach. The changes in the teaching profession have escalated the complexity of the teaching process, namely "understanding of content, understanding of teaching and understanding of technology" (Koehler & Mishra, 2009:67). Thus, the TPACK framework is suitable for this study, which focuses on understanding the teaching of Sesotho as content with the use of ICTs. The TPACK framework guided this study in unpacking different knowledge components and allowed the researcher to make sense of how teachers integrate these components into the teaching of Sesotho content.

#### **2.7.1.1 *TPACK applications and limitations***

Some TPACK studies have pointed out weaknesses in the framework (Graham, 2011; Steyn & Van Greuben, 2014). Graham (2011:8) conducted a study on theoretical considerations for understanding TPACK. The author argues that the TPACK framework "does not take into consideration factors beyond content, pedagogy, and technology, such as teachers' epistemic beliefs and values as well as contextual factors that may affect teaching and learning on daily basis" (Graham, 2011:8). The current study, however, focuses mainly on exploring teacher perspectives, which include the views and understandings on the integration of ICTs into the teaching and learning of a particular subject, Sesotho. Furthermore, the study was conducted with careful consideration of different school contexts, hence the participation of teachers from four different quintiles.

Jita (2016) conducted a study on pre-service teachers' competences for teaching Science using ICTs during teaching practice. The author reviewed articles published between 2013 and 2015 which were guided by the TPACK framework to evaluate pre-service teachers' teaching of specific content. The review shows that TPACK has been used to study the use of ICTs for the teaching and learning of subject-specific content such as English, Mathematics and Science. So far, however, the literature is silent on the use of TPACK to study the use of ICTs in the teaching and learning of African languages, including Sesotho. In addition, Cheng (2017:696) states that "even after several years, little research has focused on native language education, in particular on exploring the native language teachers' perceptions on synthesized knowledge of technology, pedagogy and content". This study thus intends to make a contribution in closing the gap.

### ***2.7.1.2 Justification for using TPACK as framework in the study***

The TPACK framework has been tried and tested in different contexts at international and local levels and could thus assist in guiding the current study. Table 2.1 indicates some of the scholars who used the TPACK framework to guide their studies on the integration of ICTs into the teaching and learning of a specific subject.

**Table 2.1: TPACK subject-specific studies**

<b>AUTHOR/DATE</b>	<b>SUMMARY</b>	<b>CONCLUSION</b>
Aniq, L. & Draji, N. 2019	The study aimed to investigate EFL teachers' perceptions of competences in their TPACK development	The study found that EFL teachers rate their domain knowledge concerning CK, PK and PCK higher than for those domains concerned with technological knowledge, such as TK, TCK, TPK and TPACK. This study also revealed two main TPACK domains, namely non-technology-related knowledge domains (CK, PK & PCK) and technology-related knowledge domains (TK, TCK, TPK & TPACK). The authors recommend professional learning that has a particular focus on teachers' knowledge and how to develop their TPACK, not only in the technological aspects.

Deng, F., Chai, S., Joeng So, H., Qian, Y. & Chen, L. 2017	The paper examined how the TPACK survey measure is aligned with the TPACK lesson plan measure and how they relate to the measure of epistemological beliefs about chemistry	The study contributes to demonstrating how to establish the construct, factorial and predictive validity of the TPACK framework and assessments that strive to represent it. The study further suggests that future research should further enhance TPACK assessment in teacher education and fully utilise assessment to guide the development and evaluation of ICT courses.
Fathi, J. 2019	The purpose of the study was to assess Iranian EFL students' perspectives regarding their teachers' TPACK	Overall, the findings of this study indicated that although Iranian L2 practitioners were viewed to be familiar with the usual technological devices, they were perceived to be less competent in effectively teaching L2 using different technological devices. These results reveal that Iranian EFL students do not consider their teachers as practitioners to be able to enhance their students' learning via effective integration of technology in their EFL instruction.
Lisene, L. & Jita, T. 2018	The aim of the paper was to explore the knowledge base of Physical Sciences high school teachers from selected high schools in Lesotho regarding the integration of ICTs into the curriculum	The study's conclusion is that many Physical Sciences teachers in selected high schools of Lesotho use ICTs, even though they use it irregularly. The teachers' ability to integrate TK into the other types of knowledge needs to be improved for effective implementation of the new Physical Science curriculum, which demands the integration of ICTs.

### 2.7.2 Rationale for using constructivism and TPACK as frameworks for the study

There are a number of conceptual and theoretical frameworks that could be adapted for studies on ICT integration for subject teaching and learning. However, the researcher chose the two frameworks that could guide the research in answering the main research

question. The constructivism and TPACK frameworks outline the pedagogical practices that enhance the teaching and learning of a particular subject. Ameen, Adeniji and Abdullahi (2019:52) state that “ICT is not just regarded as a tool, which can be added to or used as a replacement of existing teaching methods, but seen as an important instrument used to support new ways of teaching and learning”. The integration of ICTs into teaching and learning is a process that allows teachers to apply different pedagogical practices using different ICTs to ensure effective teaching and learning in the classroom.

In their study, *TPACKing: A constructivist framing of TPACK to analyze teachers’ construction of knowledge*, Olofson, Swallow and Neumann (2016) define TPACKing as an active process performed through constructing knowledge for teaching in the environment where the ICT tools are available. The process also enables learners to apply constructivist practices such as being independent and creative and to apply higher order thinking skills in their subject. Both frameworks used in this study guided the researcher to make sense of how technology, pedagogy and content knowledge align with teacher perspectives in the integration of ICTs into the teaching of a specific subject, Sesotho.

## **2.8 Gaps in the Literature**

The literature review of this study was organised into four themes. Gaps from the first three themes are addressed here. The first theme examined literature on language of instruction in South African schools. The literature indicates that in Western countries, many schools’ language of instruction is the mother tongue of the teachers and learners at the school. In South Africa, however, only Grades 1 to 3 receive instruction in learners’ mother tongue. Grades 4 to 12 will mostly be instructed in English or possibly Afrikaans, with learners’ mother tongue being one of the subjects taught in schools. As a result, languages such as Sesotho, official languages taught as subjects in schools, are disadvantaged when it comes to aspects such as ICT integration for teaching and learning. This is because their content is hardly available on ICT resources such as the internet. None of the existing research has addressed the issue on how different ICT

resources are integrated into the teaching and learning of Sesotho and how integration can assist in ensuring improvement in the language as a subject taught at schools.

The second theme examined literature on contexts of South African schools and ICTs. Theoretically, there are a number of policies on the use of ICTs in schools. The policies, however, apply the “one size fits all” approach because they seem not to consider the issue of different contextual factors that may affect teachers when it comes to the integration of ICTs into teaching and learning. Hence, the study will explore the views and understandings of ICT integration into teaching and learning from a teacher perspective, with respect to different schools in different quintiles.

The third theme examined teachers’ professional development in integrating ICTs. Both international and local literature focus on the importance of ICT professional development, and on its limitations, such as the short time spent on these trainings. While this element of research is useful, to date, it is not clear as to how ICT professional development is conducted to address the challenges of each subject individually. What is more troubling from the entire literature review is that while Sesotho is one of the subjects taught in schools, none of the research addresses the issue of ICT professional development for the teachers who teach Sesotho.

The most disturbing issue from the whole literature review is that while Sesotho is one of the subjects taught in many South African schools on different levels, there is silence on the integration of ICTs into the teaching and learning of Sesotho. This does not apply to Sesotho only but to other African languages taught as school subjects as well. Although research has paid attention to other school subjects like English, Science and Mathematics, nothing is said about ICT integration in the teaching and learning of African languages.

## **2.9 Summary of the Chapter**

The first part of the literature review for this study examined language of instruction in South African schools, followed by a review on the socio-economic status of South African schools and ICTs. Furthermore, the first part of the review explored ICT professional

development for teachers and was concluded with teacher perspectives on ICT integration for teaching and learning. The second part of the literature review explored the two frameworks guiding the study, namely constructivism and TPACK, and the rationale behind using them for the study. The literature review was ended by addressing the gaps in the literature.

The study intends to contribute to literature regarding teacher perspectives on the integration of ICTs into teaching and learning. The literature review has revealed the need to explore the challenges and opportunities of ICT integration into teachers' classroom practices and what kind of support is needed to help them in the process. This chapter is followed by the methodology chapter, which gives insight on the qualitative methodology used in this study.

## **CHAPTER 3: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter focuses on the research design and methods used for data collection. A qualitative research method was employed to explore teachers' perspectives on ICT integration in the teaching and learning of Sesotho. The focus of the chapter is on the research approach, research design, and the method of data collection employed in the study. Issues of ethics and trustworthiness will also be discussed.

### **3.2 Research Questions**

This qualitative multiple-case study sought to understand the whole picture as it applies to the integration of ICTs in different schools from the perspective of in-service teachers teaching a home language, specifically the African language Sesotho, in a single district. The research could transform the home language curriculum of the selected district and contribute to the existing data on ICT integration per subject or per home language. The main research objective in the study was to explore the perspectives of in-service teachers on the opportunities and challenges of ICT integration into the teaching and learning of Sesotho as a home language. The objectives of the study were addressed by answering the two secondary questions that guide the study:

- What are teachers' views and understandings of the integration of ICTs into the teaching of Sesotho?
- How can the views and experiences of ICT integration into the teaching of Sesotho be described and explained?

These questions were developed to “produce knowledge that has the potential to make significant theoretical contribution” (Alverson & Sandberg, 2013:12). The two research questions reiterate the purpose of the study because they “are open-ended, evolving, and non-directional” (Creswell, 2014:107). They impacted every aspect of this qualitative multiple-case study, from the role of the researcher to data collection and analysis.

### **3.3 Research Paradigm**

The study aimed to examine teachers' views and understandings regarding ICT integration into the teaching of Sesotho. For this purpose, interpretivism was chosen as paradigm to guide the study. This paradigm assisted the researcher in understanding aspects of the social lives and social behaviour of teachers, and provided a picture of their experiences of integrating ICTs into teaching.

### **3.4 Research Approach**

A qualitative research approach with multiple case studies was employed in this study and applied to in-service teachers' integration of ICTs for teaching a home language, Sesotho. This research approach "deals with the underlying qualities of subjective experiences and the meanings associated with phenomena" (Du Plooy-Cilliers et al., 2014:229). This approach enabled the researcher to explore teachers' views and understanding regarding ICT integration into their teaching activities. "The research approach enables the researcher to collect data", in this case, the integration of ICTs into teaching and learning (Creswell, 2014:185). Multiple case studies were employed in the study, because data were collected from a number of schools on different levels (Yin, 2012). The approach therefore enabled the researcher to explore and compare the views and understandings of teachers from different schools regarding ICT integration.

The problem which required employment of a qualitative multiple-case study is that many schools in South Africa have been provided with ICT facilities and tools, such as fully equipped computer labs and tablets, yet teachers still hesitate to integrate ICTs into their teaching. It is against this background that the study required teacher participants to share their views and understandings of ICT integration in teaching Sesotho. Maree (2016:53) argues that "the distinguishing features of qualitative research are that it relies on linguistics (words) and it focuses on the natural setting where the interaction occurs". Interviews were used as data collection tool so that participants could verbally express their views and understandings of integrating ICTs into teaching and learning. Words or texts in teachers' lesson plans were examined to determine teachers' experiences in

preparation of their lesson and to explore how ICT tools were planned to be used for teaching Sesotho.

The collection of data took place using three data collection methods, namely lesson plans, interviews, and policy documents. The researcher approached 12 prospective participants with an invitation to participate in the study and requesting lesson plans of the first semester (from January to May 2019). The invitation to further participate in an interview was also announced verbally to participants when the researcher went to collect the lesson plans. During the lesson plan analysis, the researcher requested specifically for those participants who indicated using ICTs in their teaching to further participate in the interviews. After the analysis of the lesson plans, the researcher handed invitations to four of the twelve initial participants to participate in the interviews. After analysis of the lesson plans, the researcher handed invitations to four of the twelve initial participants to participate in interviews. These participants responded positively. The arrangements and reminders for the interviews were made telephonically by the researcher. The interviews were audio-recorded and transcribed and the data from the lesson plans and the interviews were coded for themes and patterns in a Microsoft Word document. The researcher assured all participants that their participation in the study is confidential and that anonymity would be applied to their names and those of their institutions. Then, the researcher searched for education policies on different search engines and analysed three policies, namely CAPS, ICT policy document and language policy document, to support evidence arising from the semi-structured interviews.

### **3.5 Research Design**

This research study focused on the views and understandings of in-service teachers in the selected district. A qualitative research design was preferred for this study because of the integral role the researcher plays in the data collection and analysis. According to Maree (2016:72), “a research design is a plan or strategy that moves from the underlying philosophical assumptions to specify the data-gathering methods to be used and the data analysis to be done.” As the researcher, I contributed in the structuring of meaning and interpretation of data. These processes were influenced by my skills, practices and

epistemological perspectives as a researcher when choosing the research design. This study on teacher perspectives on the integration of ICTs into the teaching and learning of Sesotho was guided by both phenomenological approach and a multiple-case-study design. The phenomenological aspect guided the researcher in explaining how the data were gathered, interpreted and analysed to answer the research questions of the study. This aspect of the qualitative research design allowed the researcher to take into account the perspectives of the teachers who were studied.

A case study allows for the systematic investigation of the phenomenon under study to enable the researcher to gain in-depth knowledge (Rule & John, 2011). In this study, ICT integration into the teaching and learning of Sesotho was regarded as a case in which teachers needed to raise their own perspectives. The purpose was to source in-depth knowledge on the teachers' understandings, challenges and opportunities in integrating ICTs into the teaching and learning of Sesotho and how integration can be improved.

A case study is a process that allows the researcher to generate data by means of several methods, such as interviewing participants and examining documents (Creswell, 2014; Rule & John, 2011). In this study, lesson plans were collected from 12 participants from different schools on different quintile levels; therefore, the study followed the multiple-case-study design. The multiple-case-study design was adopted as it possesses the characteristics of the data collection methods employed in the study. The design enabled the participants to verbally raise their views and indicate their understandings on teaching with ICTs, and to relate their experiences of ICT integration in lesson plans and in lesson delivery in the teaching of Sesotho as a home language.

### **3.6 Position of the Researcher**

This study was mostly inspired by the researcher's role as teacher of Sesotho as a home language on secondary school level (Grades 8 to 12) in the same district where the study was conducted. The researcher has the practical experience and knowledge of some educational policies' stipulations and expectations, such as that of CAPS and the language policies. Yin (2018) argues that in a case study, it is important that the researcher is knowledgeable about relevant policy issues to be able to make critical

judgments while collecting data. The researcher was personally responsible for the selection of participants, the process of collecting data, conducting interviews and analysing the data in the study.

The researcher was open to the participants about her position as researcher. She explained that she is a Sesotho teacher in a secondary school in the district and that she also has her own personal views, experiences and opinions with regard to the integration of ICTs into the teaching and learning of Sesotho. Some of the participants were members of the same cluster to which the researcher belonged. Although she is only a member and does not hold any leadership position in the cluster, she assured the participants both verbally and in writing that their decision to participate in the study would not have any effect on their membership in the cluster. She also made them aware that their contribution to the study should reflect their personal perspectives and not those of the cluster.

### **3.7 Sampling Procedure**

The criteria selected to determine schools' eligibility for this study were that the schools had to be part of a cluster in the selected district. The sample of this study consisted of teachers from a cohort of two clusters from a single district with 53 Sesotho-language secondary schools. Maree (2016) states that in qualitative research, a large sample can make it difficult to extract rich, thick data. This is why only one district, in which the researcher works, and only schools in two clusters participated in the study. When embarking on this study, a conscious decision was made to draw representative data consisting of the characteristics comparable to those of the larger population. Teachers in the selected cluster were from different grades and represented different types of schools in a South African context. The reason for this selection was to ensure that data gathered in the research would be similar to the data that would have been reflected had the whole population taken part in the research.

Purposive sampling was utilised to ensure that rich data would be gathered. Thus, a representative sample that is of interest to this particular study was selected (De Vos et al., 2011). The sample was selected with the "purpose" of representing a phenomenon,

group, incident or location of interest to the study (Ritchie & Lewis, 2013). This is in line with Creswell (2014), who states that purposefully choosing the participants enables the researcher to understand the problem and the research question. The purposeful selection of participants enabled the researcher in this study to select participants or cases that provided rich data to answer the research questions.

### **3.7.1 Site selection**

The study was conducted in the selected district in the Free State province of South Africa, with Sesotho being the dominant language in the province. It is taught as a home language in the majority of the district's schools. The district was selected mainly because it was easy to access schools in the district, considering the limited budget and time to conduct the study. The district contains schools categorised into different quintiles, which allowed for diversity of and comparison within the sample.

The schools that took part in the study were selected because of their quintile levels and being categorised into quintiles. According to the South African School Act (No. 84 of 1996), schools are classified by the Basic Education minister based on the socio-economic status of the surrounding areas. Factors such as the surrounding infrastructure, the number of homes in the area made from brick, wood, iron sheeting, etc. are considered when categorising schools into quintiles. The quintiles rank from one to five – one being schools in the poorest areas and five being those in the wealthier areas. The schools in quintiles 1 to 3 are no-fee schools and are therefore wholly subsidised by the government. Those in quintiles 4 and 5 are schools in which the school fees are paid and which receive a partial subsidy from government (DoE, 2004). Schools that fall into quintiles 1 to 4 were selected because those are the schools in which Sesotho is taught as a home language, and quintile 5 schools mostly have English and Afrikaans as home languages. The participating teachers from these quintiles 1 to 4 schools were able to share their perspectives on ICT integration into the teaching of Sesotho. This selection allowed for diversity; as Ritchie and Lewis (2013) state, a qualitative study has to be as diverse as possible, albeit being limited to the defined population.

### **3.7.2 Selection of participants**

Teachers from a cohort of two Sesotho clusters of secondary schools in one district were recruited to take part in the study as participants. Participants had to provide the researcher with their most recent (first semester – January to May 2019) lesson plans. All their lesson plans were written in Sesotho and those that were selected for the study were translated to English by the researcher. The participants whose lesson plans indicated integration of ICTs into teaching and learning were selected for further participation in the study. For this purpose, the researcher purposively selected one participant from each quintile (1-4). These participants were selected because the researcher identified elements of rich data in their lesson plans. Their lesson plans indicated materials and procedures for integrating ICTs into their Sesotho lessons.

The participants whose lesson plans were selected were asked to take part in interviews. Four cases were included for interviewing because if the sample size is too large, there can be challenges to complete the study due to insufficient time and resources (Creswell, 2014; De Vos et al., 2011). The selected participants all taught Sesotho as a home language from Grades 8 to 12 and had five or more years' teaching experience in the subject. Both male and female teachers were selected. The study needed teachers with experience of both traditional and innovative ways of teaching. The participants were notified that they had a choice to either have the interview conducted in Sesotho or English. These participants were able to share their transitional views and perceptions of their experiences.

## **3.8 Ethical Considerations**

Ethical issues were considered to ensure quality in the study. Ethical considerations guarantee the protection of participants and improve the quality of a study and its level of trustworthiness (Rule & John, 2011; Yin, 2018). The ethics committee of the Faculty of Education at the University of the Free State approved the study in terms of ethical clearance (Appendix A). After a letter had been sent to the Free State DoE (Appendix B), the Free State DoE also granted permission for the study to be conducted in selected schools within the district (Appendix C). Letters were also sent to participants to invite

them to participate in interviews (Appendix D). After this and before the interviews were conducted, participants received consent forms to sign (Appendix E). These provided detailed information about the research and included a written assurance of confidentiality. This made it possible for participants to make an informed decision regarding participation in the study (De Vos et al., 2011).

To ensure privacy and confidentiality, the participants' real names and places of work (schools) are not mentioned and the name of the selected district is not made known in the study (Yin, 2018). In this study, the teachers who participated were labelled as alphabet numbers and had to sign consent forms (Appendix E) before submitting lesson plans and participating in interviews. After the data analysis process, all the lesson plans collected were placed in a locked cabinet for storage and safekeeping.

### **3.9 Data Collection**

Data collection is based on three principles, namely the use of numerous sources of evidence, forming a case-study database and maintaining a chain of evidence (Yin, 2009). The study used lesson plans, interviews and policy documents. For data to be collected, the researcher must first establish the problem and then “decide what information will be needed to address the problem and how best to obtain the information” (Merriam, 1998:71). In this study, the researcher requested lesson plans from participants to decide on the further selection of teachers who are using ICTs to teach Sesotho. The next step was to interview participants who indicated ICT resources in their lesson plans. This qualitative case study sought to explore teacher views and understandings as well as the meaning that they make out of their experiences of integrating ICTs into the teaching and learning of Sesotho. For this to be achieved, interviews were required and were the appropriate data collection method (Seidman, 2013). Finally, the researcher searched and analysed education policy documents to support evidence arising from the semi-structured interviews.

Data collection began with a pilot study to test the data collection instruments and was soon followed by the actual data collection. Lesson plans were collected from participants for the study during cluster meetings. The researcher visited participants at their schools

to conduct interviews. Interviews enable verbal communication between researcher and participant(s), and participants are able to verbally communicate their insights of their social worlds (Ritchie et al., 2014). Interviews therefore enabled the participants to verbally share their views and understandings of the integration of ICTs into the teaching of Sesotho and provided insight into their teaching experiences.

### **3.9.1 Instrumentation**

Different data collection methods were used to collect relevant data. This study employed lesson plan analysis, semi-structured interviews and policy document analysis as data collection instruments. Maree (2016:120) states that in investigating phenomena from a constructivist perspective, “there are multiple realities that people have in their minds; the different insights gained describe different perspectives that all reflect the unique reality and identity of participants.” Employing these different data collection instruments enabled the researcher to attain a more substantive picture of the reality and understanding of the phenomenon under study (Berg, 2007).

In this study, an analysis was made of participants’ semester lesson plans (Appendix F) from their files, interviews and policy documents. (See Appendix G for the document analysis protocol.) Lesson plans were collected only from teachers who participated in the study at the end of August 2019.

### **3.9.2 Pilot study**

A pilot study was conducted to test the lesson plan analysis and interview protocol (Appendices F and H, respectively) using a participant who was not part of the actual sample. The participant in the pilot study was a teacher of Sesotho as a home language for Grades 8 to 12. The pilot study was completed using three lesson plans and one interview, during the first week of August. A teacher working with the researcher at the same school was participant. This selection for a pilot study is in line with Bless, Higson-Smith and Sithole (2014:107), who state that “a pilot is a project that is run with a single small community over a short period of time in order to test the effectiveness and community support for the proposed solution”. Collecting pilot data took a period of ten days.

The aim of the pilot study was to ensure that through analysis of the lesson plans, the researcher was able to select the required sample for the study. Another purpose of the pilot study was to ensure that interview questions were clear and understandable for participants to answer (Du Plooy-Cilliers et al., 2014) and to determine approximately how long the interview process would take. The pilot interview was recorded, transcribed and analysed. Protocols for data collection were then adjusted based on the results from the pilot study and recommendations from a study supervisor.

### **3.9.3 Document analysis**

Two types of documents were used as data collection instruments, namely lesson plans and education policy documents.

#### **3.9.3.1 Lesson plan analysis**

Firstly, lesson plan documents were collected from participating teachers to address the research problem. According to Flick (2009:259), “documents represent a specific version of realities constructed for specific purposes.” The lesson plans were requested from 12 teachers from different schools to identify those who integrate ICTs into their teaching. The 2019 first semester (January to May) lesson plans were collected from the teachers in the form of single files in August 2019 after schools had opened for the second semester. The researcher studied the lesson plans to identify ICT integration practices and occurrences. The 12 teachers gave the researcher lesson plans and each one was examined line by line to identify occurrences of ICT usage.

The lesson plans served to clarify the participants’ understandings and use of ICTs in the teaching and learning of Sesotho and also contributed to the development of the interview schedule. The lesson plans consisted of authentic data because the participants had signed them (Williman, 2016). Four weeks were used to analyse the lesson plans for understanding, after which they were used to inform this study. Finally, a sample was selected for interviewing. The researcher selected those teachers whose lesson plans indicated employment of ICTs in terms of materials, procedure, motivation and assessment. One teacher per quintile (1-4) was purposively selected to participate in the study. All the lesson plans from the prospective 12 participants were written in Sesotho.

The researcher translated the lesson plans of the four selected participants from Sesotho into English since this study is written in English.

### **3.9.3.2 Policy document analysis**

Secondly, document analysis was performed through analysis of education policy documents. The three policy documents that were analysed were CAPS, the ICT policy document and the language policy document. The documents were obtained from internet search engines.

### **3.9.4 Semi-structured interviews**

Interviews were part of the methods for data collection employed in this study. An interview is a form of conversation that enables an interchange of views, opinions and beliefs between two or more people on a particular phenomenon (Cohen, Manion & Morrison, 2011; Du Plooy-Cilliers et al., 2014). For this study, a set of semi-structured questions, called an interview schedule, was utilised to conduct the interviews (Appendix H) (Flick, 2014; Ritchie et al., 2014). Semi-structured interviews consist of a number of open-ended questions. This allows the researcher flexibility to probe further and allows elaboration on specific issues to obtain an in-depth understanding (Maree, 2016). The participants were able to individually communicate verbally and share their experiences and views and the researcher was able to gain descriptive data through understanding their real worlds. The interviews were recorded and transcribed; the researcher also took field notes during the interviews.

The semi-structured interviews were validated by the supervisor and the ethical committee reviewer. The validity was further increased by pilot testing the interview questions. The interview questions were based on the participants' perspectives on ICT integration for the teaching and learning of Sesotho.

Before participants were contacted individually, the researcher arranged a meeting with each principal of the four selected schools to request permission to conduct the research which involves the school and to explain the purpose and significance of the study. Principals were given a letter of request for permission to conduct the study (Appendix I).

The arrangements for the interviews were communicated telephonically between the researcher and each participant. Each interview took place at each respective participant's school. The participants were asked about their understandings and views with regard to ICT integration into teaching. Before starting the actual interview procedure, the purpose of the interviews was explained to participants, as well as the fact that all aspects of the interviews were strictly confidential. Participants were also informed that they have the right to withdraw if they no longer wanted to be part of the study (Creswell, 2014). Although the researcher explained that the interview can be conducted in either Sesotho or English, all the participants preferred to use English and this could be due to the fact that they teach other subjects in English as it is the LOLT in South Africa.

During the interviews, participants expressed their views and understandings of integrating ICTs into the teaching of Sesotho as home language. They were also able to voice their opinions on how ICT integration can enhance teaching and learning. The participants' responses aided in answering the research questions. The researcher was able to comprehend what shaped the participants' perspectives on the integration of ICTs into the teaching of Sesotho. The participants were provided the opportunity to share their ideas at length with a person whose purpose was to listen and take note of the ideas without being critical (Denscombe, 2010).

According to Denscombe (2010), the interview method has its own limitations, as it could lead to a lack of consistency in participants' answers to questions. To avoid this, the same questions were asked in different ways during the interviews and in Sesotho. To verify the accuracy of the interview responses, the lesson plans of the respective participants were analysed again.

### **3.10 Data Analysis**

The data gathered in a study should be presented in a logical manner. In a qualitative study, data collection, processing, analysis and reporting progress simultaneously. De Vos et al. (2011) state that analysis is about decreasing the large amount of raw data by selecting quality data that will assist the researcher in answering the research questions through identifying significant patterns. This is why from the prospective participants'

lesson plans, only those that indicated integration of ICTs into teaching were selected for interviews. The views elicited from the interviews were summarised into themes. Through the data analysis process, data were read, coded and categorised into themes. Furthermore, information that needed more interrogation as well as still-existent gaps were identified. Thereafter, the field notes were examined and additional data were collected to fill in the gaps (Maree, 2016).

Seidman (2013) argues that when a researcher works with data from participants, they need to transform what was verbally said into a written text to study. For this study, the researcher listened carefully to the recorded audio tapes of the interviews several times before personally transcribing the information. Although the process was demanding and time consuming, it helped the researcher to learn more about the data from the interviews (Seidman, 2013). Before the final data analysis process could be completed, the major themes and findings were presented to the participants to verify that the information recorded was an accurate reflection of their responses during the interviews (Creswell, 2014). To ensure the trustworthiness of the data, the four constructs of credibility, transferability, conformability and dependability guided the study. Finally, the education policy document analysis was done on CAPS, the ICT policy document and the language policy document. The data were used to support evidence arising from the semi-structured interviews.

### **3.11 Trustworthiness of the Data**

Maree (2016:123) argues that “assessing trustworthiness is the acid test of data analysis, findings and conclusions”. According to Du Plooy-Cilliers et al. (2014), the purpose of qualitative research is to obtain in-depth knowledge of a specific phenomenon in a certain context, and not generalised information and knowledge on a broader population. A researcher may thus not obtain the same results if they repeat a study using a different sample because the views and understandings of each person are different.

Triangulation was done using a number of data collection instruments. This process enabled the researcher to identify themes from the data provided (Creswell, 2014). Data

from the lesson plan analysis and interview transcripts were compiled and compared to determine if all sources came to the same conclusions and results.

### **3.11.1 Credibility**

Credibility refers to the level of accuracy of the interpretation of data received from participants. This assists in demonstrating that the research was performed with caution to ensure that the phenomenon was correctly identified and described (De Vos et al., 2011). Two techniques were used for this, namely member checking and triangulation. The triangulation process was performed using several sources, and the process enabled the researcher to identify themes from the data provided (Creswell, 2014). Data from the lesson plans, interviews and policy documents were used for triangulation. Data from all these sources were compiled and compared to determine if all sources came to the same conclusions and results.

Member checking was another technique adopted to ensure credibility in the study. The technique enabled the validity of data interpretation with the participants themselves before data were used in the study. This was done to confirm participants' accuracy of the data (Flick, 2009; Creswell, 2014). The participants who were interviewed were given the transcripts of their interviews to review and make corrections where necessary. The lesson plans were personally written and signed by the participants. The member-checking process made it possible to ensure that the findings of the study reflected the participants' perspectives.

### **3.11.2 Transferability**

Transferability refers to the possibility of a specific study to be applied to another situation or setting (De Vos et al., 2011). In this study, a small sample was used, which helped avoid generalisation of the findings. The main aim of the study was to explore and gain an in-depth understanding of teachers' perspectives on ICT integration into the teaching and learning of Sesotho. According to De Vos et al. (2011:420), traditionalists regard "the generalisation of qualitative findings to other populations, settings, and the treatment arrangements as the weakness in the approach." Nonetheless, they state that to overcome this barrier, the researcher can give a detailed description of "how data was

collected and analysed” (De Vos et al., 2011:420). Although the aim of the study was not to generalise the findings, these findings can be applied to similar cases because the study methodology is explained in detail. The findings were drawn based on rich, thick descriptions. A detailed description of the procedures and processes was included to ensure that the findings are realistic (Creswell, 2014).

### **3.11.3 Conformability**

Conformability is the process of ensuring that a researcher has no influence on or biases in the study (Rule & John, 2011). To ensure this, the researcher disclosed to participants that she was a Sesotho teacher for Grades 8 to 12 at a secondary school in the selected district. She was also a member of one of the participating clusters. This had the potential to influence or trigger bias in the study. However, to overcome this challenge, a number of steps were taken to ensure that the findings represented the participants’ perspectives on ICT integration regarding the teaching and learning of Sesotho. Triangulation, an audit and member checking were applied.

Triangulation was applied to ensure validity of the study by using more than one source of data. When analysing the data, information from the different sources was compared to validate patterns and themes from the findings. Before concluding the study, an external auditor was involved to review some aspects of the research, such as transcription, research questions and their relevance to the data, and data analysis (Creswell, 2014; Maree, 2016). This was one way to ensure that the steps taken throughout the data collection process and analysis were valid.

### **3.11.4 Dependability**

Dependability means that if the study was to be repeated under the same context with the same participants, results obtained would be the same. The researcher has clearly stated the principles and criteria used in this study to select participants and described the participants’ main characteristics in order for transferability of the results to other contexts to be assessed (Elo, Kääriäinen, Kanste, Pölkki, Utriainen & Kyngäs, 2014). To ensure dependability, the researcher used an audit trail, which “is the examination of the inquiry process and product to validate the data, whereby a researcher accounts for all

the research decisions and activities to show how the data were collected, recorded and analysed” (Li, 2004). The researcher comprised the data derived from the document analysis, lesson plans and interviews, and field notes, and then used these as an audit trail to track mistakes. Being consistent in the analysis of the data was crucial to the dependability of the results in this study; therefore, the researcher was sure to describe specifically how data were collected, analysed and interpreted.

Another method that was used to ensure dependability is peer examination. The researcher discussed the research process and findings of this study with fellow researchers, which include post-doctoral researchers, and doctoral and master’s students, of whom some have experience of and others are currently conducting qualitative research. The fellow researchers help to identify the areas of research that may not be addressed by the research questions and may generally give advice on faults that may appear in the research process and findings (Anney, 2014).

Finally, triangulation was also part of the processes applied to ensure dependability. This was done through the use of different sources of data or research instruments, namely semi-structured interviews, lesson plans and documents. In addition, the researcher utilised different informants to enhance the quality of the data from different sources (Denzin & Lincoln, 2005; Lincoln & Guba, 1985). Furthermore, the use of a digital audio-recording device during the interviews supported dependability of the interview data collected. The researcher’s reflective notes were an additional source of data to triangulate the findings of the study.

### **3.12 Summary of the Chapter**

In this chapter, the research methodology of the study was discussed. The research questions and the details of the research design were outlined. The position of the researcher was well defined as well as the instruments utilised to collect data. A description of the data collection process was given, which included the selection of participants and schools that participated in the study. The next chapter will present the findings of the study.

# CHAPTER 4: PRESENTATION OF THE FINDINGS

## 4.1 Introduction

This chapter discusses the findings from the data collected. Qualitative data analysis was employed in this study with the purpose of exploring the participating teachers' perspectives on the integration of ICTs into the teaching of Sesotho. The chapter begins with a summary of the purpose of the study, which is followed by a description of the approach employed to collect data, presentation of the data and, finally, the conclusion.

Before the data are presented, it is important to take note of the following:

- In the South African context, Sesotho is offered as a subject at a number of secondary schools at different levels (home language, first additional language and second additional language). Data collected for this study were for Sesotho home language.
- Data were collected from schools in one district, falling under quintiles 1 to 4, from teachers who teach Sesotho for Grades 8 to 12.
- The participants were notified by the researcher that they have a choice to either have the interviews conducted in Sesotho or English. They, however, all chose to have them conducted in English, although some used a few Sesotho phrases during the interviews. This could be because they teach other subjects in English, and also, they were aware that this study would be written in English.
- Although the researcher made efforts to record the narratives of the participants verbatim, there was a need to rephrase some parts. This was done to ensure clarity and had no effect on the meaning in the narratives.
- The presentation of findings is structured into emerging themes, sub-themes and categories. Some findings may not be applicable to all participants due to their different contextual settings. Moreover, the participating teachers' views and understandings may differ in some cases.

## 4.2 Demographic information of participants

The presentation of data begins with a summary of the demographic information of the participants. Table 4.1 presents the demographic details of participants, with six demographic variables, namely gender, age category, qualification and subject specialisation, teaching experience and number of years teaching Sesotho.

**Table 4.1: Demographic details of participants**

Participant	Gender	Age category	Qualification & subject specialisation	Subjects & grades taught	Teaching experience (years)	Number of years teaching Sesotho
P1	Male	40-45	Bachelor of Arts in Education, Bachelor of Education, and Honours (Education management)	English and Sesotho, Grades 8-12.	17	17
P2	Male	33-35	Bachelor of Education and Honours in Education (Curriculum studies)	Sesotho and Geography, Grades 8-12	5	5
P3	Female	27-30	Bachelor of Education and PGDip (Curriculum studies)	Sesotho and Social Sciences, Grades 8-12	6	5
P4	Male	45-50	Diploma in Education and Advanced Certificate in Education	Sesotho and Commercial Studies, Grades 8-12	20	17

As seen in Table 4.1, there were three male participants and one female. Participants 2 (quintile 2) and 3 (quintile 3) have less years of teaching experience than the other two participants. This could imply that they graduated recently from higher learning institutions and may thus have been exposed to the use of different ICTs. They may therefore be more innovative and able to integrate different ICT tools into the teaching and learning of the subjects that they teach. The participants in this study were purposively sampled to participate in the interviews. The four participants respectively represent quintiles 1 to 4. None of the participants is younger than 27 years or older than 50 years. Their work experience as teachers ranges between 5 and 20 years, with their teaching of Sesotho

ranging between 5 and 17 years. This suggests that the participants will have had adequate experience of teaching Sesotho and that they will have possibly been exposed to the traditional methods of teaching as well as the use of ICTs for teaching and learning. This therefore enabled the participants to provide the necessary data to assist in answering the research questions. The following section presents the lesson plan analysis.

### 4.3 Lesson plan analysis

Table 4.2 presents a summary of the lesson plans received from the twelve prospective participants, of which four were selected to further participate in interviews.

**Table 4.2: Single files with lesson plans per quintile per prospective participant**

Quintile	Prospective participant	How many lesson plans per file	Single file per phase (grade)	How many ICT tools per file	ICT tools available in the files
1	1	10	SP (8)	2	Printer and photocopy machine and printed copies
	2*	4	SP (8)	5	Internet, printer and photocopy machine, printed copies, laptop, projector
		3	FET (12)	5	Internet, printer and photocopy machine, printed copies, laptop, projector
	3	8	SP (4)	0	None
2	4	11	FET (11)	0	None
	5	9	IP (4)	0	None
	6*	4	FET (10)	5	Internet broadcasting projects (IBP), printer and photocopy machine, printed copies, laptop, projector
3	7	8	FET (11)	0	None
	8*	7	FET (12)	7	Internet, printer and photocopy machine, printed copies, laptop, computers (at the lab), projector
	9	10	FET (10)	0	None
4	10*	5	FET (10)	5	Internet, computer, projector, tablet, white board.
		5	FET (11)	7	Internet, computer, projector, tablet, white board, printer and photocopy machine, printed copies
	11	10	FET (11)	3	Printer and photocopy machine, printed copies and whiteboard
	12	11	FET (11)	3	Printer and photocopy machine, printed copies and whiteboard

\*Lesson plans with evidence of the combination of ICT tools and thus selected for interviews.

The researcher approached 12 prospective participants in an invitation to participate in the study requesting lesson plans of the first semester (from January to May 2019) (Table 4.2). The invitation also stated that participants may further be requested to take part in an interview. The invitation to further participate in an interview was also announced verbally to participants when the researcher went to collect the lesson plans. During the lesson plan analysis, the researcher searched specifically for those participants who indicated using ICTs in their teaching, to further participate in the interviews. After analysis of the lesson plans, the researcher handed invitations to four of the twelve initial participants to participate in interviews. There were lesson plans from two prospective participants which also indicated the use of ICTs; however, compared to the selected four, the occurrences of ICT tools were low.

#### **4.3.1 Lesson plan samples**

The indication of the use of ICTs in the lesson plans varied among participants. Some lesson plans have a section where participants specifically indicate the resources or teaching aids that will be used for the lesson, while others indicate the resources and teaching aids in different sections of the lesson plan. Figures 4.1 and 4.2 present two samples of lesson plans from Participant 1 (quintile 1) and Participant 4 (quintile 4), respectively.

SESOTHO HOME LANGUAGE

GRADE: 12

DATE	21 JANUARY 2019
DURATION	45 MINUTES
TOPIC	FORMAL LETTER ( LETTER OF COMPLAINT)

LESSON OBJECTIVE (S)

- By the end of the lesson learners ' should be able to:
- Identify the difference between the formal and informal letter
  - Know the purpose of a letter of complaint.
  - Write a formal letter( of complaint) with the correct structure and register

TEACHER'S ACTIVITY

- To teach learners the purpose of the formal letter of complaint.
- The structure of the formal letter (with specific focus on the letter of complaint).
- The register of a letter of complaint.
- To guide the learners' to plan and do a mind map of what they will write in the letter.
- To give and explain the assessment activity at the end of the lesson

LEARNER'S ACTIVITY

- To take notes as the teacher explains.
- To participate by means of asking questions for clarification and answering.
- To complete the assessment activity given

RESOURCES

TEACHER	LEARNERS
<ul style="list-style-type: none"> <li>- Laptop</li> <li>- Projector</li> </ul>	<ul style="list-style-type: none"> <li>- Photo copies (notes)</li> </ul>

TEACHER'S SIGNATURE:

**Figure 4.1: Lesson plan sample (Participant 1)**

**SESOTHO HOME LANGUAGE**

**LESSON PLAN**

**GRADE: 11**

**DATE OF THE LESSON:** 24 JANUARY 2019

**TEACHER'S SIGNATURE:**

**DURATION:** 1 HOUR

**TOPIC :** JOB APPLICATION LETTER

**LESSON OBJECTIVES:**

1. To write out the plan of the content of the letter,
2. To differentiate between different types of formal letters,
3. Write the application letter following the correct structure and register.

**INTRODUCTION**

I aim to ask and discuss with the learners the different types of formal letters that they know as well as their purposes. This will be a way of assessing the learners' background knowledge on formal letters.

**TEACHER ACTIVITIES**

During the lesson I will be doing the following:

1. Revising the planning and its purpose before writing a letter and displaying the example on **the projector**,
2. Discussing the contents of the Job application letter and its purpose,
3. Displaying and application letter on **the computer through the projector** to show the learners the structure and register,
4. Asking learners questions and answering theirs to ensure that they understand the lesson.

**LEARNER ACTIVITIES**

During the lesson the learners are expected to do the following:

1. To discuss the types of formal letters that they know about,
2. To search on **Google using the tablets**, the examples of job application letters,
3. To ask questions as a way of seeking clarity,

**CONCLUSION**

**ASSESSMENT**

Using the **computer and internet**, before the lesson, I will upload the learners' activity. They will access it on the **tablets**. The activity will be **HOMEWORK**. I will explain the contents of the activity to the learners at the end of the lesson and respond to the questions if there are any.

**Figure 4.2: Lesson plan sample (Participant 4)**

As seen in Figures 4.1 and 4.2, both lesson plans were done based on similar topics. However, the planning and resources used in both lessons differ. In addition to this, ICT resources that were indicated in the lessons also differed in both lesson plans. In Figure 4.1, the ICT resources were the laptop, projector, photocopy and printing machine, and in Figure 4.2, the ICT resources were the projector, computer, internet and tablets.

The following tables (4.3 – 4.6) present an in-depth content analysis of the lesson plans submitted voluntarily as part of the textual data sources by the four participants who took part in the interviews. Information from each of the lesson plans was recorded in a Microsoft Word sheet, with no name identifiers in order to maintain anonymity.

**Table 4.3: Lesson plan analysis of Participant 1**

Lesson plan	Grade	Topic	ICT resources used for the teaching and learning of Sesotho	How ICT tool(s) was (were) to be used
1	12	Longer transactional text – formal letter (of complaint)	Projector, laptop	Lesson presentation
2	12	Literature (novel – introduction)	Cell phone (teacher-owned), internet, laptop, projector	Lesson preparation and lesson presentation
3	8	Language structure and convention (synonyms and antonyms)	Internet, printer and photocopy machine, printed copies, laptop, projector	Lesson preparation, lesson presentation and learner involvement
4	8	Reading comprehension	Internet, cell phone (teacher-owned), printer and photocopy machine, printed copies	Lesson presentation and learner involvement
5	12	Essay (narrative)	Laptop, projector	Lesson presentation
6	8	Literature (short story)	Laptop, projector	Lesson presentation
7	8	Shorter transactional text (friendly letter)	Internet, printer and photocopy machine, printed copies, laptop, projector	Lesson preparation, lesson presentation and learner involvement

Table 4.3 displays the seven lesson plans of Participant 1, indicating ICT tools used and how they are used for the teaching and learning of Sesotho. The evidence from the lesson plans indicates that projectors and laptops are the most commonly used ICT tools by the participant. The participant seems to use projectors and laptops for lesson-preparation and lesson-presentation purposes. On the other hand, a less common ICT tool used by the participant is the cell phone. The participant indicated that he uses his cell phone to

search for information on the internet and also to connect his computer to the internet (hotspot) because internet is not available at his school (see Table 4.8).

**Table 4.4: Lesson plan analysis of Participant 2**

Lesson plan	Grade	Topic	ICT resources used for the teaching and learning of Sesotho	How ICT tool(s) was (were) to be used
1	9	Visual literacy (analysing a poster)	Printed copies, laptop, projector	Lesson presentation and learner involvement
2	10	Longer transactional text (obituary)	Internet broadcasting project (IBP) recordings, projector, laptop	Lesson presentation
3	9	Language structure and conventions (connectors and conjunctions)	Cell phone (teacher-owned), laptop	Lesson preparation
4	9	Literature (poetry)	Laptop, projector, printed copies	Lesson presentation and learner involvement
5	10	Essay (narrative)	Laptop, projector	Lesson presentation
6	9	Listening and speaking (dialogue)	Printed copies	Lesson presentation and learner involvement
7	10	Literature (poetry)	Laptop, cell phone (teacher-owned)	Lesson preparation
8	10	Visual literacy (advertisement)	Laptop, projector	Lesson presentation
9	9	Literature (poetry)	Internet broadcasting project (IBP), projector, laptop	Lesson presentation

The data captured above (Table 4.4) indicate that laptops and projectors are the most commonly used ICT tools by Participant 2. Similar to Participant 1, Participant 2 seems to use projectors and laptops for lesson-preparation and lesson-presentation purposes. In addition to this, the less common ICT tool used by Participant 2 is the cell phone. Both participants indicated that the cell phones used belong to them and not to the school and this might be the reason why they are used less in the planning of lessons. Surprisingly, out of nine lesson plans, only three reveals evidence of the use of ICT tools for learner-involvement purposes and in the rest of the lesson plans, ICT tools are to be used for lesson-preparation and lesson-presentation purposes, as indicated in rows 1, 4 and 6 (Table 4.4). This could be due to the ICT tools-learner ratio, as the number of learners in classes could be higher than that of the ICT tools available.

Table 4.5 presents the data from lesson plans received from Participant 3, with the focus on the grade, lesson topic, ICT resources used and how they were used.

**Table 4.5: Lesson plan analysis of Participant 3**

Lesson plan	Grade	Topic	ICT resources used for the teaching and learning of Sesotho	How ICT tool(s) was (were) to be used
1	12	Literature (drama – introduction)	Laptop, internet, computers (at the computer lab), projector	Lesson preparation, lesson presentation and learner involvement
2	12	Visual literacy (cartoon)	Internet, laptop, projector	Lesson presentation and lesson preparation
3	12	Essay (narrative)	Computers (at the computer lab), projector	Lesson presentation and learner involvement
4	12	Summary	Internet, printed copies, computers (at the computer lab), projector	Lesson preparation, lesson presentation and learner involvement
5	12	Formal Letter (of complaint)	Computers (at the computer lab), projector	Lesson presentation and learner involvement
6	12	Listening comprehension	Printed copies	Learner involvement
7	12	Prepared speech	Laptop, projector, computers (at the computer lab), internet	Lesson preparation, lesson presentation and learner involvement

Table 4.5 captures the evidence from the lesson plans of Participant 3, indicating that projectors and computers (at the computer centre) are the most commonly used ICT tools by the participant. The participant seems to use projectors and computers (at the computer lab) for lesson-presentation and learner-involvement purposes. On the other hand, the less common ICT tool used by the participant is printed copies. This could be because there are available textbooks for learners to use for Sesotho, as was indicated by the participant in the interview (to be discussed later in the chapter). Unlike Participants 1 and 2, Participant 3 seems to include more learner involvement in her planning because out of six lesson plans presented, five reveal evidence of the use of ICT tools for learner-involvement purposes.

Table 4.6 presents the data from lesson plans received from Participant 4, with the focus on the grade, lesson topic, ICT resources used and how they were used.

**Table 4.6: Lesson plan analysis of Participant 4**

Lesson plan	Grade	Topic	ICT resources used for the teaching and learning of Sesotho	How ICT tool(s) was (were) to be used
1	11	Listening comprehension	Projector, computer	Lesson presentation
2	10	Literature (poetry)	Tablets	Learner involvement
3	11	Formal letter (job application)	Computer, internet, projector, tablets	Lesson presentation and learner involvement
4	10	Minutes and agenda	White board, tablets	Lesson presentation and learner involvement
5	11	Visual literacy (cartoon)	Printed copies, white board	Lesson presentation and learner involvement
6	11	Essay (narrative)	White board	Lesson presentation
7	10	Essay (narrative)	Computer, projector	Lesson presentation
8	11	Literature (poetry)	Tablets, internet, computer, projector	Lesson presentation and learner involvement
9	11	Summary	White board, printed copies	Lesson presentation and learner involvement
10	10	Literature (poetry)	Tablets	Learner involvement

Table 4.6 captures the evidence from the lesson plans of Participant 4, indicating that tablets are the most commonly used ICT tool by the participant as they appear in five out of the ten lesson plans presented above. Tablets are followed by projectors and computers, which appear in four lesson plans. Unlike all three other participants, the most used ICT tool (tablets) are for learner-involvement purposes. Similar to Participant 3, the less common ICT tool used by the participant is printed copies. This could be because ICT tools such as the computers at the computer centre and tablets, as both participants indicated, are available ICT tools for learners to use in place of printed copies.

In addition to the participant demographics, two main themes emerged from the data. These are discussed in the following two sections.

#### **4.4 Views and understandings on ICT integration**

Table 4.7 summarises the emerging theme, sub-themes and categories as related to secondary research question 1.

**Table 4.7: Summary of emerging theme and sub-themes as related to secondary research question 1**

Secondary research question 1	Theme 1	Sub-themes	Categories
What are Sesotho teachers' views and understandings of ICT integration into the teaching and learning of Sesotho?	Participant views and understandings on ICT integration in the teaching and learning of Sesotho	1.1: Contextual settings	Teacher experiences of ICT tools at schools
			Availability of ICT tools for the teaching and learning of Sesotho
		1.2: Daily experiences	Present preferred teaching methods
			ICT policies/guidelines for Sesotho teaching
			Challenges of integrating ICTs into the teaching and learning of Sesotho
			Opportunities of integrating ICTs into the teaching and learning of Sesotho

This theme relates to secondary research question 1 and captures the participants' views and understandings with regard to the integration of ICTs into the teaching and learning of Sesotho. The theme is divided into the following sub-themes: 1) contextual settings, and 2) daily experiences. The sub-themes are divided into categories, which will be discussed in this section.

#### **4.4.1 Contextual settings**

This sub-theme captures the data from the participants' lesson plans and narratives on their contextual settings in their various schools. The sub-theme is organised according to the following categories (Table 4.7): a) teacher experiences of ICT tools at schools and b) availability of ICT tools for the teaching and learning of Sesotho.

##### **4.4.1.1 *Teacher experiences of ICT tools at schools***

Table 4.8 shows the data captured from the participants' lesson plans and narratives regarding the ICT tools available at the schools and the purpose for their usage by the participants. This is followed by an in-depth analysis of the narratives with regard to the availability of ICT tools and their usage by the participants. The lesson plans and interview

transcripts were examined line by line to identify ICT-tool occurrences, how they were used and the purpose for their usage.

**Table 4.8: Available ICT resources in participating schools**

No.	Item	P1 (Q1)	P2 (Q2)	P3 (Q3)	P4 (Q4)
1	White boards				X
2	Computers	X	X	X	X
3	Printers & photocopy machines	X	X	X	X
4	Projectors	X	X	X	X
5	Computer lab	X		X	X
6	Computer lab access			X	X
7	Internet access		X	X	X
8	Mobile devices				X
	Total ICT resources per school	4	4	6	8

Table 4.8 displays the available ICT resources in the participating schools. Participants 1 and 2 (quintiles 1 and 2, respectively) indicated that they each have four out of the eight ICT resources listed in the table above, which shows that their schools are poorly equipped with ICT resources. The resources indicated by them are used by all the teachers and other staff members, such as administrators, at their schools. Participant 1 indicated that there is a lack of resources available at his school:

I am not using much of the ICTs, as we speak, due to lack of school-owned devices, devices that belong to schools that you can always carry to class to use.

According to Hennessy et al. (2010), the effective introduction of technology into schools requires that ICT resources (such as computers, mobile devices, internet connectivity, etc.) be accessible. To Hennessy et al. (2010), if teachers cannot access school ICT resources, like many teachers in schools in sub-Saharan Africa, they will not use the ICT resources in their practice.

Participant 1 continued to discuss the available ICT resources at his school:

Well, my school has a computer centre, but we don't have access to the centre. The only things that we have that we can borrow from the clerks are projectors.

This is evident on the lesson plan analysis because there is no occurrence of a computer lab as an ICT tool used for teaching and learning (Table 4.8).

Participant 2 (quintile 2) mentioned that his school has projectors, laptops, printers and copying machines and the internet. This is what he said:

Most of the laptops that we have in our school are used by people who teach Science, especially for Mathematics. Then, the desktops are used mostly by admin clerks. The only time that we have to use the laptops is when we use our personal laptops, and we mostly use them at home. The internet at school is only reserved for administration purposes, and for teachers who teach Mathematics only. But as for us who are teaching Geography and Sesotho and other subjects, we are finding it very much difficult to have an internet access, oa bona (you see).

Unlike with Participants 1 and 2, the school where Participant 3 (quintile 3) works at is a little more fortunate. Participant 3 indicated that her school has a computer lab, projectors, internet, printers and photocopy machines, a computer centre and that teachers and learners have access to the computer centre. This indicates six out of the eight items listed above which are available at the school (Table 4.8).

Participant 4, on the other hand, is from a better resourced school (quintile 4) and has access to many more ICT resources. The participant indicated that his school has eight out of the nine items that are listed above (Table 4.8). It is evident that the higher quintile schools have more ICT tools compared to those in lower quintiles.

#### **4.4.1.2 *The usage of ICT tools for the teaching and learning of Sesotho***

This section of the analysis focuses on the usage of the ICT tools for the teaching and learning of Sesotho. To understand which ICT resources are used for Sesotho and how teachers and learners use them, an in-depth analysis of the lesson plans was done concurrently with the analysis of the interview transcripts.

Participants 1, 2 and 3 seemed to be using similar ICT tools, namely computers, projectors and the internet. They seemed to apply similar methods when using these tools

during their teaching, which include projecting the work, and searching for information and sending information via social media, which require the internet. This could be due to the availability of and possibilities presented by these tools to be used in the Sesotho classroom.

Participant 1 (quintile 1) explained:

I use my laptop and projector to project slides, notes or any content that we will be dealing with on that day.

The lesson plan indicates the internet and printer and photocopy machine (as one tool). These tools however, are mainly used for the preparation of the lesson by means of searching, sending and receiving the information about the content and to print and make copies of the information needed for the lesson. Further evidence shows that cell phones are used by teachers for both lesson preparation and presentation purposes. Participant 1 explains:

My school does not provide me with data, so I normally use my cell phone to search some information during the lesson that might be helpful to better explain the content. Although information is mostly in English, I normally translate so that learners can understand. Hothata hampe (It is very hard) to find Sesotho content on the internet.

Although the use of cell phones by learners is prohibited at this school, Participant 2 (quintile 2) uses the social media platform WhatsApp to share information with the learners so that they can use it as they do their homework and self-study at home. He explained:

I project the work on the overhead projectors and then I give my learners the softcopies through the WhatsApp group to do the homeworks at home. I am also projecting the IBPs, which is the internet broadcasting projects by the Department of Education, and the University of the Free State presentations.

Participant 2 felt that Sesotho is being disadvantaged because of the limited ICT resources that he is allowed to use for the teaching and learning of the subject. He felt

that Science and Mathematics teachers are given more opportunities in terms of ICT usage than teachers of Sesotho. He said:

Most of the laptops that we have in our school is used by the Science Department, especially for Mathematics. The internet at school is only reserved for administration purposes and teachers who teach Mathematics only. But as for us who are teaching Geography and Sesotho, especially Sesotho, we are finding it very much difficult to have an internet access.

Although Participant 3 uses similar tools as Participants 1 and 2, she seemed to have a different teaching experience from the two participants with integrating ICTs into teaching and learning. She indicated that she is able to use the ICT centre at her school, unlike Participants 1 and 2, and therefore the learners are able to integrate ICTs into the learning of Sesotho.

She explained:

I use computers and projector; for instance, if we are now dealing with, let's say, an advertisement, I will show them with the internet. Maybe we will google some advertisements so that they are able to see what an advertisement looks like. Another example: let's say we are doing poetry – I project it and show them how a poem should be articulated and read out.

Unlike Participants 1 and 2, Participant 4 has access to a number of ICT resources which he uses for the teaching and learning of Sesotho. Similar to Participant 3, during his lessons, the learners are also able to integrate ICTs into the learning of Sesotho.

He (Participant 4) explained:

I go to the classroom, set up the projector, whereby I will be using the laptop to project the information that is in the laptop on the whiteboard. Then learners, now, they need to look at their textbooks. But because, now, we have introduced textbooks which are no longer the ordinary, traditional way, this textbooks now are in the tablets. So, it means it's easy for learners now to do the integration.

The levels in which participants use ICTs differ. This could be due to their personal preference with regard to teaching. In addition to this, the issue of the availability of ICT resources could also contribute to the level at which the participants integrate ICTs into their teaching and learning. Participant 4 seems to integrate ICTs into teaching and learning more than Participants 1, 2 and 3 as he provided more lesson plans with evidence of ICT integration (see Table 4.7). This could be due to the fact that his school is more equipped with ICT tools than those of the other participants (see Table 4.8).

#### **4.4.2 Daily experiences**

This sub-theme captures participants' narratives on their daily experiences with regard to the integration of ICTs into the teaching and learning of Sesotho. The sub-theme is organised according to the following categories (also see Table 4.7): a) present preferred teaching methods, b) ICT policies/guidelines for Sesotho teaching, c) challenges of integrating ICTs into the teaching and learning of Sesotho and d) opportunities of integrating ICTs into the teaching and learning of Sesotho.

##### **4.4.2.1 Present preferred teaching methods**

Participants narrated how they currently prefer teaching Sesotho. They did so by explaining the teaching method(s) they prefer when teaching Sesotho and the reason(s) for their preference. All participants indicated that they prefer to use a combination of traditional and computer-based teaching, each participant having their own reason for their preference.

Participant 1 (quintile 1) indicated, as seen earlier, that his school has a computer centre which they as teachers at the school cannot utilise because the computers do not work. He also emphasised the important role of cell phones and how they can possibly assist in the teaching and learning of Sesotho. He described his preferred teaching method:

I think the combination of both would be benefiting us all. The learners benefit given the fact that they come from different backgrounds. Their need for variety cannot be overemphasised. There is that learner who would be coming from some sort of disadvantaged economy/social background. Now, the learner would be

advantaged. But some other learners would be having access from such tools from home. Therefore, variety makes me reach out to those learners equally.

Drawing from the response above, the participant seemed to be aware that learners are exposed to the use of ICTs in their daily lives. He confirmed an argument by Lee et al. (2014:243), who state that “the current generation of students is highly attuned with technology and possesses sophisticated knowledge and skills in ICT”. However, he seemed to be considerate of the socio-economic background of learners and attempts to ensure that all learners benefit from his preferred methods of teaching regardless of their financial background. He seemed to understand that not all learners have access to ICT tools and emphasised the importance of accommodating all the learners by using both traditional and ICT-based teaching when teaching Sesotho.

Participant 2 (quintile 2), in his narrative, indicated how he uses ICT as a supportive resource to the traditional method of teaching to ensure effective teaching and learning of Sesotho. He explained that projecting work and sharing the softcopies of the work with his learners via social media ensure that learners receive the necessary content for the learning of the subject, regardless of the lack of textbooks. Participant 2 described how he uses ICTs to support the traditional methods of teaching and learning:

I prefer the combination of the traditional methods of teaching as well as the use of ICT in my classroom, because the school in which I work does not have enough resources, such as textbooks, and then we lack on hardcopies. So, sometimes I project the work on the overhead projectors and then I give my learners the softcopies through the WhatsApp group to do the homeworks at home.

Participant 3 (quintile 3) indicated in her narrative as well as lesson plans that her school has quite a number of ICT resources available to use for teaching and learning. In her preparation for ICT-integrated lessons, she also makes precautions in case of any distractions that may occur. She explained how she does this:

Personally, I prefer to use option 3, which is the combination of both traditional and computer-based teaching. My reason for that is that it's always convenient to use the two because now you always have a plan that if this one fails, then at least you

have the other one in place for that one. Let's say if ... we currently facing load shedding, if the ICT one fails – there is no electricity, no internet connection for that day – I still have my chalkboard and textbooks.

Participant 4 (quintile 4) explained that using both traditional and computer-based teaching enables him to teach the basics of Sesotho. He said:

I prefer the last one, which is a combination of traditional and integration of ICT. When you bring ... the new technology into teaching, it must not do away with the traditional way of doing things. 'Cause you see, when you teach Sesotho as home language, you need to ensure that learners ... get the basics. They need to know exactly where we come from with using the language in order for them not to lose focus on the content of the subject when they are now learning with technology.

The above findings are in line with the DoE policy (2004:17), which states that:

While e-learning will not replace teachers, it will enhance the quality and reach of their teaching and reduce the time spent on administrative chores. In introducing e-learning, we must make sure that we balance it with other teaching methods. E-learning should recognise that its value is linked to its sustainability to individual learning and teaching styles and strategies.

All participants preferred using a combination of traditional and computer-based teaching methods even though they each apply these methods differently in their lessons.

#### **4.4.2.2 *ICT policies/guidelines for Sesotho teaching***

This section discusses the participants' narratives on the ICT policies that guide them in their teaching of Sesotho. All participants in this study indicated that they do not know of any policies guiding them on the use of ICTs in teaching Sesotho. They responded as follows:

I don't know of any ... well, for me, it is a matter of passion and love for technology. I happen to love it and to keep in line with new developments as far as technology is concerned. (Participant 1)

Honajwale (right now), we do not have any policies regarding ICT in the teaching of Sesotho. So now, I am only following the curriculum and assessment policy statement on Sesotho. (Participant 2)

I do not know of any policy that guides teachers in teaching Sesotho using ICTs. ... There are no specific CAPS documents for ICT. But we normally use the CAPS document for Sesotho that are there. (Participant 4)

Both Participants 2 and 4 alluded to depending on the CAPS document for guidelines on how to teach Sesotho. One of the aims of the National Curriculum Statement (NCS) mentioned in the D0E (2014:5) is “to produce learners that use science and technology effectively and critically showing responsibility towards the environment and the health of others”. Although the policy provides guidelines on how Sesotho content should be taught, it is silent about the use of ICTs when teaching the content.

#### **4.4.2.3 Challenges of integrating ICTs into the teaching and learning of Sesotho**

This section discusses the participant narratives on the challenges that they experience when integrating ICTs into the teaching and learning of Sesotho.

The DoE (2004: 22) states that:

The impact of the effectiveness of ICTs rests on the extent to which end-users (learners, teachers, managers and administrators) have access to hardware, software, and connectivity. For e-learning to be successful, learners must have regular access to reliable infrastructure.

Participants 1 and 2 (quintiles 1 and 2, respectively) narrated how they have experienced technological problems with integrating ICTs into the teaching of Sesotho due to a lack of knowledge. They felt that the lack of information on operating technological devices hinders the process of integrating ICTs into the teaching of their subject, Sesotho. Participant 1 attempted to explain the problems that he encounters:

I don't know how my learners are able to download the books, the prescribed books, to their phones. But they have that way, Mme (Mam); they actually have

them on their phones. I don't know how they are able to get that, but, for me, I am not able to get that.

Participant 2 explained that the process of integrating ICTs into teaching and learning can be time consuming and requires TK. The participant said that:

“it takes time to connect and to prepare the equipment before the class resumes, and then it requires certain expertise and technical knowledge to project the work in there”.

Participants 2 and 4 raised another challenge that they have experienced when integrating ICTs into teaching and that is load shedding. Participant 2 said: “Sometimes we have electricity cuts or power cuts.” Participant 4 addressed the electricity issue shortly by saying, “[i]f there is no electricity there is a problem.” According to Khan et al. (2012), to ensure the effectiveness of the ICT infrastructure in a country, which includes infrastructure of educational institutions, there is a need for uninterrupted electricity supply.

Participant 4 also articulated the challenge of the learners' inability to integrate ICTs into learning, which hinders them from being part of the process. He said:

There are learners whom, when you teach through this technology, they are very slow. So, they will take time to make a link with this. Sometimes while you are doing the technological part, they will tell you about the textbook. Bana ha ba tshwane akere? (Learners are not the same, right?).

Participant 4 continued to raise another challenge with regard to the linking and organisation of ICT resources. He explained that each of the resources to be utilised plays a vital role and that they all have to be ready when the lesson begins because it is difficult to continue with the lesson if one of them is not working.

If the projector is not there, it would be difficult for you to do the lesson in class. It means you need to have the set of all this combination to be easy for the smooth running of your class. Whatever one misses, there is no class. So ... you need to have a backup now and, also, is time consuming because that backup is not there

in the class. You need to say to learners, “[l]et me go back to the storeroom and check the additional textbooks,” which is a waste of time kannete (honestly).

Participant 3 (quintile 3) narrated the challenges that she experiences due to the shortage of online information when coming to Sesotho content. She described how it is difficult for her to access Sesotho content online and how that continues to affect the learners when they have to do their given tasks.

In teaching Sesotho, you would find that ... I will give you an example – where we have, I would say, a shortage or a lack of information that, when we sometimes, when we have to get particular things on, on, on the internet, yah, on the internet ... it, it would be a struggle in getting access. I would give you an example – access to online dictionaries, online researches, where, now, learners have to now go out and look for certain things on their own, it become a struggle.

The findings above make it clear that participants have encountered different challenges. This could be due to the differences in context (such as the availability of ICT tools in their schools) and their individual use of ICTs.

#### **4.4.2.4 *Opportunities of integrating ICTs into the teaching and learning of Sesotho***

In addition to the challenges of integrating ICT, participants also narrated how the integration of ICTs into the teaching and learning of Sesotho has been beneficial in ensuring that the process is effective. Participants explained how they use the ICT resources available to ensure that teaching does not depend solely on the traditional methods.

Participants 1 and 3 (quintiles 1 and 3, respectively) narrated how their schools lack material even for traditional methods of teaching. Participant 1 explained how the use of ICT tools is useful in ensuring that teaching and learning takes place regardless of the challenges he comes across due to the lack of teaching and learning resources.

Nowadays, the Department of Education is not doing enough to provide us with even the material that we would need to use for traditional methods. We also lack

that. We lack textbooks, sometimes we lack chalk. When experiencing that, I would say that it would not be possible for the lesson or for teaching and learning to continue without the use of projectors. They are very useful.

Participant 3 has also experienced shortages of textbooks at her school. However, integrating ICTs into teaching has enabled her to continue teaching regardless of the challenges she faces:

In terms of the shortage of textbooks that we have, at least I am able to project certain things or certain work using our projectors. Not even that only, sometimes we have a shortage of textbooks – now, I am able to make copies for each and every learner in class.

Participant 3 explained that the use of ICTs exposes learners to different methods of learning: “Like I said, it makes work or the subject easier because, now, learners do not just rely on your textbook or the information that only I give them.”

Furthermore, Participant 2 (quintile 2) explained how ICTs contribute to effective teaching and learning of Sesotho when other teaching and learning resources limit the process. In support, he provided an example on how he has used ICTs to clarify the contents of his lessons that are unclear on the printed paper:

The visual literacy, for an example: we can ... project the cartoons and the advertisement on the projectors, etc. ... And then we also use the, because the mere fact that the school printers use black and white, so it becomes difficult for learners to identify different components that will be there on the advertisement or on the cartoons. So, it is very much easier when you are using the visual literacy text and projecting it on, on the projectors because they can be able to see, to distinguish different colours and different components of the cartoons and ... the advertisement.

Another point made by Participants 1 and 4 is the benefit of using different applications or apps of mobile technologies in the teaching and learning process. The participants felt that the use of mobile devices benefits both the teachers and learners as they are able to share information and ensure that the teaching and learning process does not end in the

classroom but continues to take place even outside of the school premises. Participant 1 narrated how mobile devices are used in his classes for teaching and learning:

After I have taught or after the end of the lesson, learners ... or I as a teacher can transfer or use any other app to make sure that the learners have the lesson that I have been teaching them in their phones. They can carry it home or can even share it via social media. You shall remember that WhatsApp enables us to create a group where we can share things. Sometimes after the lesson, after presenting it, you are able to sort of get it [the lesson] and transfer it to the learners. They will have a picture of what they have been learning about in the classroom right in their phones, right in their homes. The problem, I repeat: it is against the code of conduct of the school for learners to carry cell phones when they come to school.

Participant 4 explained how learners at his school use mobile devices for the learning of Sesotho:

Is so easy because what you do now, remember, while you are in the class teaching, these learners, through their tablets, for them to go and play these content that we did in your [their] absentia, some of them they do recording akere, Mme? (right, Mam?). So, it's easy for them to play [the recording] many times to get exactly what was happening in the class as if you are there with them.

The findings provide evidence that ICT integration provides a number of opportunities for teaching and learning. In addition to this, participants came across different situations and have different experiences when integrating ICTs into the teaching and learning of Sesotho. The next section discusses the recommendations and suggestions by participants on the issue under study.

#### **4.5 Recommendations and suggestions on ICT integration**

Table 4.9 summarises the emerging theme, sub-themes and categories as related to secondary research question 2.

**Table 4.9: Summary of emerging theme and sub-themes as related to secondary research question 2**

Secondary research question 2	Theme 2	Sub-themes	Categories
How can Sesotho teachers' perspectives of ICT integration for teaching Sesotho be understood and described?	Recommendations and suggestions by participants on ICT integration in the teaching and learning of Sesotho	2.1: General perspectives	Availability of online Sesotho information
		2.2: Perspectives directed to the DoE	Provision of ICT resources to schools
			Experiences of training and development on ICT integration into the teaching and learning of Sesotho
			Teacher training and development on ICT integration for teaching and learning
		2.3: Perspectives directed to school management	Review of school code of conduct
		2.4: Teachers' knowledge, understanding and application of education policies	Teachers' knowledge, understanding and application of CAPS
Teachers' knowledge of the ICT policies and motivation to integrate ICTs into their practice			

This theme captures the participants' recommendations and suggestions with regard to the integration of ICTs into the teaching and learning of Sesotho. Most of the recommendations made by the participants are in line with Gebremedhin and Fenta (2015), who state that there is a need for different ICT resources, teacher training and development, time provisions and technological support for teachers. The theme is divided into the following sub-themes: 1) general perspectives, 2) perspectives directed to the DoE, 3) perspectives directed to school management, and 4) teachers' knowledge, understanding and application of education policies. Each sub-theme is divided into categories, which will be discussed under the relevant sub-theme.

#### **4.5.1 General perspectives**

This sub-theme captures participants' narratives on the general improvements that can be made on the integration of ICTs into the teaching and learning of Sesotho. The

sub-theme only has one category (see Table 4.9): availability of online Sesotho information.

#### **4.5.1.1 Availability of online Sesotho information**

The participants narrated their suggestions on the issues of availability of online Sesotho information as one of the measures that could improve the teaching and learning of Sesotho. According to Maseko, Sam, Dalvit, Nosilela and Terzoli (2010:316), “[w]hile information is available (in other languages) about African languages, there is not much content available in the African languages themselves.” The African languages mentioned here include Sesotho. In addition to this, Olivier (2016) states that there is very little Sesotho content and academic discourse online. In addressing this issue, the aims of the Incremental Introduction of African Languages (DBE, 2013:5) policy are, among other aims, to “... strengthen the use of African languages at Home language level and ... to increase access to languages by all learners beyond English and Afrikaans”.

All four participants shared the same sentiment with regard to the availability of online Sesotho content. They all agreed that more online Sesotho content could be beneficial and would make teaching and learning of the subject more effective as there will be much more information about it online. Participant 1 felt that having online Sesotho resources would benefit the school more than using only hardcopies. He explained:

If we would somehow upload Sesotho dictionary, Sesotho books or whatever material to the cloud and so that we can be able to reach it, it would benefit us all. If, somehow, as a school, we would not only rely on buying the hardcopies, we would also buy softcopies, it would be easy for us to share the information with other learners. It is high time that schools should actually do that.

Participant 2 believed that teachers urgently need online Sesotho content: “I think it is each and every teacher’s dream to see an online Sesotho.” He continued:

The online content of Sesotho for teachers and learners, so that the teachers and the learners can have access to Sesotho content that is available online. And then

we can also have the resources such as the computer labs at schools that provides for Sesotho lexicography.

Participant 3 explained that there is useful information online, although it is uploaded in English, with teachers having to translate the information when they need it. She explained:

I would suggest that if more online, let's say – I would give you an example – e-books, if e-books would be placed and readily available for learners to be able to access the online information that is in Sesotho and not in English, where we now have to work to translate. The information is available, but now we have to translate everything we get in Sesotho.

Maseko et al. (2010) share the same sentiment with Participant 3, stating that people around the world are able to access information on different ICT resources in English and other western languages, but not in African languages like Sesotho.

Similar to Participants 1 and 3, Participant 4 felt that there is a need for textbooks to be available online for learners to access them. Online textbooks are part of the online Sesotho content that Participants 1, 2 and 3 referred to, as presented above. On this matter, Participant 4 said: “If the majority of learners throughout the country, they can access textbooks in their tablets – this is very important, because teaching is going to be very easy.” This suggestion could be influenced by the developments brought by technology, which assist in saving money and time and in making the learning material more accessible. The participants might have witnessed this as one of the effective teaching and learning strategies from other subjects and/or institutions of learning.

These findings indicate the urgent need for online Sesotho content as all the participants indicated its importance to and effectiveness in the teaching and learning of Sesotho. This will assist in addressing the issue of the *digital divide* that is evident between Sesotho and the other subjects taught at schools. The findings are in line with one of the policies analysed in the study (DoE, 2004:9), which states that “digital divide is about local content development in terms of the number and quality of websites, local language content and the use of local online content by key sectors”, in this case the education sector.

## **4.5.2 Perspectives directed to the DoE**

This sub-theme captures participant narratives on their perspectives directed to the DoE on how they can contribute to improving the integration of ICTs into the teaching and learning of Sesotho. The sub-theme is organised according to the following categories (also see Table 4.9): a) provision of ICT resources to schools, b) experiences of training and development on ICT integration into the teaching and learning of Sesotho, and c) teacher training and development on ICT integration for teaching and learning.

### **4.5.2.1 Provision of ICT resources to schools**

Similar to the issue of online Sesotho information discussed above, all four participants addressed the issue of the need for the schools to be provided with ICT resources. The participants addressed the challenges they experience with regard to the integration of ICTs into the teaching and learning of Sesotho. They felt that the availability of ICT resources will assist in overcoming those challenges. Participant 1 said: “The school should provide for the tools. The tools should be owned by the school, I suppose, and we should have a way of controlling them, a way of having access to them.”

Participant 2 indicated that his school does not have a computer lab (see Table 4.8), suggesting that computer labs would be helpful for schools, especially those in the townships. His words were: “I would say that the Department of Education should provide us with the resources such as computer labs, because most of our schools in the townships do not have computer labs.”

Participant 3 felt that although her school has some ICT resources available, such as a computer lab and other resources (see Table 4.8), it is important to ensure that there are enough ICT resources for all teachers to access at any time when they need them. She explained:

I would say facilities such as computers; your printers; working printers – where we are not just able to just search things online but at least we are able to print certain work that was done during that time; working internet connections; your projectors, which are available no matter in which class, I do not have to move around certain things. I would say it would work much better.

Participant 4 pointed out the need for the transformation of township schools to be on the same level as model C schools with regard to ICT-resource availability. He highlighted this even though he teaches at a school that is under quintile level 4 and is well equipped with ICT resources (see Table 4.8) compared to the schools of the other participants, which are under lower level quintiles. The participant explained:

I think the development that I want to see is that schools need to be transformed to be similar to model C schools, in terms of saying the department needs to provide them with ICT resources. Because, you see, in our area here, you have that school of ours...in fact, not in the area of ours, in the whole district; it is the only smart school that is there.

The above findings indicate that participants made recommendations that would assist in closing the *digital divide*, with teachers in different school contexts being able to effectively integrate ICTs into the teaching and learning of Sesotho.

#### **4.5.2.2 Experiences of training and development on ICT integration into the teaching and learning of Sesotho**

Three of the participants indicated that they have not been trained to integrate ICTs into the teaching and learning of Sesotho. When asked about ICT training for Sesotho, Participant 1 (quintile 1) responded: "Not in any way whatsoever. There has not been any form of training."

Participants 2 and 3 (quintiles 2 and 3, respectively) had similar experiences, although both alluded to having attended teacher trainings and development programmes. However, the training on ICT integration was directed at the other subjects that they teach and not at Sesotho. Participant 2 explained:

I regard myself as a very fortunate teacher because I went for the Internet Broadcast Project [IBP] trainings. So, I used what I have learned in Geography training and then I use that skill in Sesotho, in compiling and then in teaching content using the ICT.

Participant 3 explained the type of training that she has received: “Well, it’s having, having went to certain, to training in other learning areas. So, I had to, through what I learned, try to incorporate it into my subject, Sesotho.”

Furthermore, both Participants 2 and 3 regarded their university experience as another form of training that they had received with regard to ICT integration for teaching and learning. Participant 2 explained: “I also apply my ICT skills that I have gained during my university years during my training as a teacher.” In remembrance of her university training experience, Participant 3 said: “... at university we also had a certain class where we were taught ICTs, even though it was not specifically for the teaching of Sesotho.”

Participant 4’s experience differed from that of the other three participants. He has been receiving and still continues to receive training on ICT integration for the teaching and learning of Sesotho. Although his school cannot organise the training, the DoE makes arrangements for them to continuously receive the training. He explained:

We struggled to get a person who can help us with this, at first. The Department of Education gave us a service provider from internally. So that person, he is moving around the Free State in term of this five schools that are smarts schools. So, because we have been identified, this person normally comes there to give us training when there are new programmes that have been introduced. Then he would arrange a programme and visit us weekly to come and do that for us.

Participant 4 further explained how the training is conducted with regard to ICT integration into the teaching and learning of Sesotho. He said: “... we sit there as participants and every teacher, in terms of what this person [the trainer] is doing ... will be linking [their] subject into that content.” This is in line with Spiteri and Rundgren (2020:126), who state that “teacher training needs to acknowledge that the content knowledge is always changing since information on the internet changes continuously and teachers need to adapt their pedagogical instruction”.

The data from the above findings indicate that there is a lack of teacher training and development on the integration of ICT resources to teach Sesotho.

#### **4.5.2.3 *Teacher training and development on ICT integration for teaching and learning***

All the participants seemed to strongly recommend that teachers should be trained and developed in terms of ICT integration into teaching and learning. Participant 1 (quintile 1) did not have much to say concerning this, although he emphasised that “[t]he department should train people; the teachers should be trained themselves”. Participant 2 (quintile 2) also shortly explained the need for training and development. He said: “... the Department of Education can also provide us with training because the majority of the people who are teaching language at our schools are mostly people who are, are nearly aged.”

Similar to these two participants, Participant 3 (quintile 3) indicated the need for teacher training. She emphasised, however, that the training should not be a once-off training due to the development of technology. She also shared the same sentiments with Participant 2 regarding the consideration of older teachers on the issue of ICT integration for teaching and learning. She explained:

If we are talking about ICTs, it means there’s technology involved. We all know that technology improves almost daily. So, at least if we have continuous training – where the department organises training for educators to be trained continuously. Because it is not just young educators that teach Sesotho, where we will say that they will teach themselves how to use technology, but we still have those teachers, experienced teachers, I would say, where they also need to be updated and be taught continuously on how to use technology.

The above findings indicate that participants felt that teacher training should be conducted in a manner that will ensure successful integration of ICTs in the classroom.

#### **4.5.3 Perspectives directed to school management**

This sub-theme captures participants’ narratives on their perspectives directed to school management on how they can contribute to improving the integration of ICTs into the teaching and learning of Sesotho. The sub-theme only has one category (see Table 4.9): review of school code of conduct.

#### **4.5.3.1 Review of school code of conduct**

All four participants raised a concern with regard to school code of conduct, through which learners are prohibited from using cell phones on school premises. The participants raised concerns about this as they regard cell phones as devices that many learners have access to and that contribute to the integration of ICTs into teaching and learning. Participant 1 (quintile 1) said: “Unfortunately, the code of conduct of my school does not allow learners to carry cell phones in the yard. If that would be allowed, we would use cell phones.”

Participant 2 (quintile 2) also explained that “the school policies do not allow learners to come with the cell phones to school”. He further recommended that changes need to be made to the school’s code of conduct to allow learners to bring mobile devices to the school. He said:

I can say that the school management can consider the school’s code of conduct and allow learners to come with the cell phones to school because they are devices which are, we are now working with in the 21<sup>st</sup> century. So, we are moving away from the traditional method of teaching and the traditional method of learning, whereby the world is now technological. So, obviously, learners will be able to come with the cell phones at school and then will work at school using the cell phones.

Participant 3 (quintile 3) suggested that learners should be allowed to bring cell phones to school and that they should have access to the internet within the school premises. She explained:

I would allow also our Sesotho learners to bring cell phones because in my school particularly, cell phones are not allowed. So, at least if we would know that, “Ok, learners are able to carry cell phones to school,” we would be able to do certain things at school. Also, if they can ensure that our internet connectivity is working; because, now, all learners would have access to data. Now, if our Wi-Fi and internet connections are working, it would make our Sesotho class easy to work with.

Although of the four participants, Participant 4 (quintile 4) indicated the highest level of ICT-resource availability at his school (see Table 4.8), he also expressed the need for schools to allow learners to bring cell phones to school. He said:

If the policy can be reviewed, it means now it must go back to the SGB [school governing body] meeting for review, and then lets us allow learners to bring their cell phones to school. Remember the tablets, the learners keep them at school and they use them only at school. It is the school's property. So, for them to transfer information, it must go to what? To their smartphone.

However, according to Participant 4, there is a risk in allowing learners to bring cell phones to classes. He explained:

Because I want the learners to get the ... their corrections very easy and have more information and also so that they can record the lesson to play it while they are at home, they can't take this tablets home. I would say to them, "Although the policy does not allow you, just bring them for only my period of Sesotho," ... then they bring those. And, then, tomorrow, I must still question them and say, "No cell phones, we are back to normal."

The participants raised the importance of the use of cell phones in the teaching and learning of Sesotho. The findings therefore address the importance of reviewing schools' codes of conduct to accommodate 21<sup>st</sup>-century developments, such as the use of mobile devices in schools.

#### **4.5.4 Teachers' knowledge, understanding and application of education policies**

This sub-theme captures participants' narratives on their knowledge, understanding and application of education policies. The sub-theme is organised according to the following categories: a) teachers' knowledge, understanding and application of CAPS, and b) teachers' knowledge of the ICT policies and motivation to integrate ICTs into their practice.

#### **4.5.4.1 Teachers' knowledge, understanding and application of CAPS**

All participants seemed to regard CAPS as a significant policy for the teaching of Sesotho. They all seemed to be using the policy as their guideline in the teaching of Sesotho. Participant 1 (quintile 1) explained:

The CAPS provides me with the necessary information for my subject. Before I prepare the lessons and assessments, both formal and informal, I use my CAPS document to get guidelines, especially on the content that must be taught and assessed.

Participant 2 said:

You know, Mme (Mam), when soldiers carry guns, we carry the CAPS document. The teacher doesn't teach the content that comes from his head. We follow the plans that are in the CAPS and we plan, and teach ...eehh, and even assess what is in the CAPS.

Participant 3 (quintile 3) mentioned the teachers' responsibilities in ensuring that the teaching and learning of the prescribed content takes place. She alluded:

The policy provides the teacher with information on what to teach and assess. A teacher will plan the lesson based on the topics within the CAPS, but she will teach the content using their preferred teaching methods. How you choose to teach the content is really up to you as a teacher, as long as the content has been taught to the learners.

Participant 4 (quintile 4) shared the same sentiments with Participant 3 with regard to teachers' duties in relating the policy into practice.

I use the CAPS to get direction and understand what is expected from me as a Sesotho teacher. I have to take what is written in the CAPS and turn it into a lesson to achieve my lesson objectives. I have to use teaching methods that will ensure that effective teaching and learning takes place. Every teacher has their way of teaching.

The data from the findings above indicate that CAPS is more focused on the teachers' CK and is silent about their TPACK. There is more emphasis on what should be taught, but the policy is silent on how the content should be taught.

#### **4.5.4.2 *Teachers' knowledge of the ICT policies and motivation to integrate ICTs into their practice***

Although all participants integrated ICTs into their teaching, they seemed to have no idea of any ICT policies which guide them in their practice. However, they use ICTs to ensure effective teaching and learning of Sesotho. Participant 1 (quintile 1) alluded as follows: "I don't know of any ICT policy up to so far. It is just me and my passion. It is out of love and realising that these are the tools that learners are always carrying wherever they are." He further explained the importance of ICT integration in ensuring good learner performance in Sesotho:

Even though there is no policy guiding me on how and when to use these technologies when I teach Sesotho, I made it my responsibility that when I plan my lessons, I include ICT tools that I will use as resources that will help improve my lesson presentation and also involve learners to enjoy and better understand the content that I am teaching. Even though, eeh, I have told you, they [ICT resources] are quite few in our school. But I make the best of what we have.

Participant 2 (quintile 2) seemed to depend on CAPS as the only policy which guides teachers in the teaching of Sesotho. He explained: "Currently, we do not have any policies regarding ICT and Sesotho, the ICT in the teaching of Sesotho. So now, ehh, I am only following the curriculum and assessment policy statement on Sesotho."

Participant 2 further stated that being exposed to the integration of ICTs in teaching of other subjects besides Sesotho encouraged him to integrate ICTs into the teaching of Sesotho.

I also integrate it in my ICT skills that I have gained during my training as a teacher in Geography. ICT has a huge impact on the effective teaching and learning of a subject because it exposes you as a teacher and learners to different teaching and learning methods as well as the resources for information. Even though Sesotho

content is very scarce on the internet, but we do our best, Mme (Mam), with what we can get.

Participant 3 (quintile 3) also did not know of any ICT policy guiding the teaching of Sesotho. She was, however, aware of the impact of technology in the everyday lives of the learners and how ICTs assist language teachers to manage their work effectively and to decrease the workload. She explained:

I do not know of any policy that guides in teaching ICTs in Sesotho. Our learners are so much into technology. So, ICT integration in the classroom is a strategy in a way, o kilewa bona (you know), which motivated them to be involved in lessons and to do their work. And again, le honna (on my side), as a teacher, it saves me a lot of trouble. Teaching languages has a lot of demands, like ... high number of learners, a long syllabus whereby I have to prepare for lessons, and lot of marking. But technology helps in terms of saving work so that I don't have to start afresh every year with the lesson preparations and assessments. It helps me a lot, really.

Similar to Participant 2 (quintile 2), Participant 4 seemed to also depend on CAPS as the only document guiding him in the teaching of Sesotho. He alluded as follows: "There are no specific CAPS documents for ICT. But we normally use the CAPS document for Sesotho that are there."

Participant 4 seemed to believe that the integration of ICT encourages constructivist practices in the classroom, which ensures effective teaching and learning. He explained:

Learners do not depend on only one source of information, and I am not there to spoon feed them. We use ICT resources in a manner that I do not transfer information to the learners the whole time, but they are able to do their research and even share and discuss information. Bana ba tlwaela hoikemela thutong, akere? (Learners are able to be independent in their education, right?).

The data from the above findings indicate that although participants integrate ICTs into their practice, they still lack knowledge on the available ICT policies in education and therefore do not follow the stipulations within those policies. In addition to this, there is no specific ICT policy on the teaching and learning of Sesotho, which leads to teachers

depending fully on CAPS for guidelines on the teaching of Sesotho. The next section discusses the document analysis.

## **4.6 Document analysis**

The following documents are analysed in this section:

- Department of Basic Education (DBE) 2011. *Curriculum and Assessment Policy Statement (CAPS)*. Pretoria: Government Printer.
- Department of Education (DoE) 2013. *The incremental introduction of African languages in South African schools. Draft policy*. Pretoria, South Africa: DoE.
- Department of Education (DoE) 2004. *Draft White Paper on e-Education. Transforming learning and teaching through information and communication technologies (ICTs)*. Government Gazette. No. 26734.

### **4.6.1 General data emerging from the CAPS document**

Table 4.10 presents the data from CAPS, with the specific focus on the aims and/or goals of the policy, expectations from teachers and learners.

**Table 4.10: Data extracted from the Curriculum and Assessment Policy Statement (CAPS)**

Document	General emerging data from the policies	Expectations from teachers	Expectations from learners
Curriculum and Assessment Policy Statement (CAPS)	<p><b>Sepheo sa Setatemente sa Kharikhulamo ya Naha Dikereite tsa 10-12 ke ho hlahisa baithuti ba tla kgona ho:</b></p> <p>Sebedisa saense le theknoloji ka phethahalo le ka tshekatsheko a bontsha boikarabelo mabapi le tikoloho mmoho le bophelo bo bottle ba batho ba bang.</p> <p><b>The National Curriculum Statement Grades R-12 aims to produce learners that are able to:</b></p> <p><i>Use science and technology effectively and critically showing responsibility towards the environment and the health of others.</i></p>	<p><b>Ditlhokeho tsa ho ithuta Sesotho Puo ya Lapeng e le e nngwe ya dithuto</b></p> <p>• Titjhere a be le:</p> <p>(a) Setatemente sa Leano sa Kharikhulamo le Tekanyetso (b) Tokomane ya Leano e bitswang (<i>Language in Education Policy (LiEP)</i>) (c) Buka ya thutapuo e sebediswang ke baithuti mmoho le dibuka tse ding tseo e leng mehlodi e tlatseletsang buka e sebediswang ke baithuti (d) Mefuta e latelang ya dingolwa tse amohetsweng/balletsweng ho ithutwa: Padi Tshwantshiso/terama Dithothokiso (e) Dibukantswe/didikshenare (f) Mehlodi ya dikgokahano: Pokello ya dikoranta tse fapaneng, dimakasine le dibrouthjara.</p> <p><b>Resources needed for the learning of Sesotho Home Language as one of the subjects</b></p> <p>A teacher must have:</p> <p>(a) A National Curriculum Statement (CAPS) (b) Language in Education Policy (LiEP) (c) Learners' textbook and other additional learning material. (d) The following prescribed literature books: Novel Drama Poetry (e) Dictionaries (f) Transactional resources; newspaper collection, magazines and brochures.</p>	<p><b>Ditlhokeho tsa ho ithuta Sesotho Puo ya Lapeng e le e nngwe ya dithuto</b></p> <p>• Moithuti ka mong a be le:</p> <p>(a) Buka ya thutapuo e amohetsweng (b) Mefuta e latelang ya dingolwa tse amohetsweng/balletsweng ho ithutwa: Padi Tshwantshiso/terama Dithothokiso (c) Bukantswe/dikshenare (d) Mehlodi ya dikgokahano: Pokello ya dikoranta le dimakasine.</p> <p><b>Resources needed for the learning of Sesotho Home Language as one of the subjects</b></p> <p>A learner must have:</p> <p>(a) Learners' textbook (b) The following prescribed literature books: Novel Drama Poetry (c) Dictionary (d) Transactional resources; newspaper collection, magazines and brochures.</p>

Source: DBE (2011: 74)

Table 4.10 presents the analysis of the general data emerging from the CAPS document stipulating the aim of the DBE to produce learners that are able to use science and technology effectively and critically, showing responsibility towards the environment and the health of others. The ability to use science and technology effectively does not imply, however, that ICT Integration into the teaching of the subject is actually taking place. The CAPS document is silent about the integration of ICTs into the teaching and learning of subjects. The CAPS document seems to be more focused on prescribed teaching plans, assessment programmes, and time allocation for subjects. De Lange, Winberg and Dippenaar (2020) affirm this by stating that the number of guidelines and exemplars provided by CAPS is insufficient, and yet more focus is on the prescribed teaching and assessment plans. In addition to this, the findings by Govendor and Hugo (2018:24) indicate that certain teachers in their study felt that the expectations of CAPS are difficult to achieve due to its high number of assessments which require a lot of time. This is evident in the following figure (Figure 4.3), which is an example of the CAPS teaching plan for Sesotho Home language (Grade 12).

			<b>Sebopeho le makgetha a tema e kgethilweng</b> Nako: dihora tse 4
7/8	<b>Puo e hlophisitsweng / e sa hlophiswang:</b> mawa a ho bua pontsheng ya batho, sebopeho mmoho le tshebetso ya boitokisetso <ul style="list-style-type: none"> <li>• Makgetha le melao ya tema</li> <li>• Ho etsa moralo, diphuputso, tihophiso ya dintlha, ho ikwetlisa le ho nehelana</li> </ul> Nako: hora e le 1	<ul style="list-style-type: none"> <li>• Ho fumana moelelo wa ditema tse bohuwang mohl. dipapatso, dikhathunu, ditshwantsho</li> <li>• Ho ithuta dingolwa</li> </ul> Nako: dihora tse 4	<b>Tema ya kgokahano:</b> Puo/ puisano/ inthaviu <b>Tsepamisa ho:</b> <b>Tshebetso ya ho ngola</b> Ho etsa moralo/ boitokisetso ba ho ngola, ho ngola mekgwaritso, ho boeletsa mosebetsi, ho bala hape bakeng sa ntlafatso, ho hlaola diphoso le ho nehelana <b>Dibopeho le melao ya tshebediso ya puo:</b> <ul style="list-style-type: none"> <li>• Rejistara, setaele le boikutl'wahatso</li> <li>• Kgetho ya mantswa</li> <li>• Ho bopa dipolelo</li> <li>• Ho bopa diratswana</li> <li>• Matshwao a puo le mopeleto</li> </ul> <b>Sebopeho le makgetha a tema e kgethilweng</b> Nako: dihora tse 4

**Figure 4.3: CAPS teaching plan copied for Grade 12 Sesotho Home language**

Source: DBE (2011: 62)

Figure 4.3 above presents the term 1 (weeks 7 to 8) teaching plan from the DBE (2011:74). The figure presents the prescribed content that should be taught and assessed daily, and the time allocated. The assessment plan, however, does not provide any guidelines on how teachers should teach the content of a particular topic.

It is therefore up to the teacher to decide on the teaching methods and resources that will be used to teach lessons. De Lange et al. (2020) affirm this by stating that CAPS does not provide enough guidance and exemplars, but it is more focused on the prescribed curriculum and the assessment plans. Therefore, the policy's emphasis is on guidelines on what should be taught and not how it should be taught. In Figure 4.3, column 2, the guidelines state that learners should be taught the following:

- strategies of presenting in front of people;
- the structure and planning for a prepared/unprepared speech;
- different methods to search for information when preparing a speech; and
- the correct use of language and register when presenting the speech.

Figure 4.4 presents one of the lesson plans based on one of the prescribed lesson topics (prepared speech) in the teaching plan in column 2 of Figure 4.3.

**DEPARTMENT OF LANGUAGES**

**MORALO WA MOSEBETSI WA KA PHAPOSING (LESSON PLAN)**

Thuto Subject <b>Sesotho</b>	Kereiti Grade <b>12</b>	Nako Duration <b>45 min</b>	Letsatsi Date <b>13 March 2019</b>
Sephetho sa ho ithuta Lesson objectives	At the end of the lesson learners should be able to: <ul style="list-style-type: none"> <li>• Define what a prepared speech is and its purpose.</li> <li>• Practice the strategies of presenting in front of people.</li> <li>• Prepare a speech according to its correct structure and planning.</li> <li>• Use different methods to search for information when preparing a speech.</li> <li>• Use language and register when presenting the speech.</li> </ul>		
Mesebetsi ya titjhere Teacher activities: <ul style="list-style-type: none"> <li>• To teach learners what a prepared speech is and its purpose.</li> <li>• To teach learners the strategies of presenting in front of people.</li> <li>• To teach learners the structure and planning.</li> <li>• To teach learners the different methods to search for information when preparing a speech.</li> <li>• To teach learners the correct use of language and register when presenting the speech.</li> </ul>	Mesebetsi ya moithuti Learner activities: <ul style="list-style-type: none"> <li>• To take notes during the lesson.</li> <li>• To search for information on the computer during the lesson.</li> <li>• To ask and answer questions as a form of participating.</li> </ul>		
Teaching resources Mehlopi ya ho ruta: Laptop and projector.	Learning resources Mehlopi ya ho ithuta: Computers at the lab and the internet.		
Tekanyetso Assessment activity: Homework (Preparation for the formal activity – PREPARED SPEECH)	Mokgwa wa tekanyetso Assessment method: Formal task		

**Figure 4.4: Lesson plan from Participant 3**

The daily teaching plan guides the teachers on the skills that must be learned by the end of the lesson and the teacher plans the lesson in line with the teaching plan. The teaching plan, however, does not suggest daily assessment activities and teaching resources and materials, including ICTs. The teacher, however, must plan a lesson and include these aspects that are not in the teaching plan (see Figures 4.3 and 4.4).

Kuddus and Khan (2020:2) conducted a study in the developing country Bangladesh and state that “with the aim of integrating ICT tools in classroom and to create a successful teaching and learning environment, education policy has been rephrased, as part of this, Secondary English Curriculum has been revised”. The initiative of revising the education policy contributes to ensuring that teachers have the TPACK for the effective teaching and learning of the subject in the classroom. In contrast, the DBE (2011:15 to 16) presents a list of resources that each teacher and learner must have for the teaching and learning of Sesotho (see table 4.10, columns 3 and 4. ICTs are not included in the list and it can therefore be concluded that the policy does not motivate and hold teachers accountable to integrate ICTs into the teaching and learning of Sesotho. The policy only considers CK as significant for the teaching of the subject and neglects TPK. It is for this reason that the study explored the challenges and opportunities of integrating ICTs into the teaching and learning of Sesotho from the teachers’ perspectives.

#### **4.6.2 *The incremental introduction of African languages in South African schools***

The following section presents the data from *The incremental introduction of African languages in South African schools* policy, with specific focus on the aims and/or goals of the policy and expectations from teachers and learners (Table 4.11).

**Table 4.11: Data extracted from *The incremental introduction of African languages in South African schools policy***

Document	The aims and/or goals of the policy	Expectations from teachers	Expectations from learners
The incremental introduction of African languages in South African schools	<p><b>The main aims of the policy</b></p> <ol style="list-style-type: none"> <li>1. Improve proficiency in and utility of African languages at Home Language level, so that learners are able to use their home language proficiently.</li> <li>2. Promote social cohesion and economic empowerment and expand opportunities for the development of African languages as a significant way of preserving heritage and cultures.</li> </ol>	<p><b>Provision of resources</b></p> <p>The Department of Basic Education's Curriculum and Assessment Policy Statements (CAPS) and the DBE workbooks are available for both the Home and the First Additional Language levels for all official languages.</p> <p>The National Catalogue contains textbooks and readers for Home language in all official languages. The Department of Basic Education will work with publishers to ensure that a list of approved textbooks is available.</p>	<p><b>Provision of resources</b></p> <p>The DBE workbooks are available for both the Home and the First Additional Language levels for all official languages.</p> <p>The National Catalogue contains textbooks and readers for Home language in all official languages. The Department of Basic Education will work with publishers to ensure that a list of approved textbooks is available.</p>

Source: DoE (2013:15)

Table 4.11 above displays information from *The incremental introduction of African languages in South African schools* document, which is a policy that supports the improvement of the quality of the teaching and learning of African languages in schools. As shown in the table, the main aims of the policy are to: improve proficiency in and utility of African languages at Home Language level, so that learners are able to use their home language proficiently; and promote social cohesion and economic empowerment and expand opportunities for the development of African languages as a significant way of preserving heritage and cultures. Similar to the CAPS document for Sesotho Home Language (Grades 10–12) (see Table 4.10), this policy indicates CAPS, prescribed DBE workbooks, textbooks and readers as the resources that should be used for the teaching and learning of African languages (see Table 4.11, column 3). According to Widodo (2016), teachers are not awarded an opportunity to assess the relevance and effectiveness of the prescribed textbooks and teacher guides according to their pedagogic perspectives, yet they are expected to utilise them for the teaching and learning of the subjects.

It is surprising that the policy aims to improve proficiency in and utility of African languages at Home Language level as well as to promote social cohesion and economic empowerment and expand opportunities for the development of African languages, yet encourages traditional pedagogical practice. The resources mentioned in the policy (see Table 4.11, columns 3 and 4) do not include ICTs. The policy therefore is as silent as CAPS on the integration of ICTs into the teaching and learning of African languages. Widodo (2016:143) states that “pre-packed curriculum materials such as a list of competency standards, syllabi, lesson plans, and textbooks among others place language teachers in the comfort zone. Within this zone, language teachers are merely consumers of policy maker and expert knowledge”. It can therefore be concluded that this policy, similar to CAPS, considers PCK as significant for the teaching and learning of African languages and disregards TK. Isisag (2012:2) states a number of advantages of ICT usage for language teaching:

- a) Books have a fixed presentation, unlike computers, which can combine visual with listening material, text with graphics and pictures.
- b) Computer programmes can be adapted by teachers to suit their students’ needs and level of language.

Unlike books, which are produced in a single uniform format and need to be taught irrespective of students' problems, computer programmes are more learner-friendly. c) With the help of ICT-based tools and the constantly growing number of available educational resources language teachers are able to give individual and personalized guidance to the learners.

Regardless of the significance of the integration of ICTs into teaching and learning, African language teachers may still choose not to put it into practice because the policies which guide them do not encourage and/or bind them to integrate ICTs when teaching languages.

#### **4.6.3 *Draft White Paper on e-Education***

The following section presents the data from the *Draft White Paper on e-Education*, with specific focus on the aims and/or goals of the policy and expectations from teachers and learners (Table 4.12).

**Table 4.12: Data extracted from the *Draft White Paper on e-Education***

Document	General emerging data from the policies	Expectations from teachers	Expectations from learners
Draft White Paper on e-Education	<p>e-Education policy goal:</p> <p>Every South African manager, teacher and learner in the general and further education and training bands will be ICT capable (that is, use ICTs confidently and creatively to help develop the skills and knowledge they need as lifelong learners to achieve personal goals and to be full participants in the global community) by 2013.</p>	<p>The use of ICTs in education:</p> <p>While e-learning will not replace teachers, it will enhance the quality and reach of their teaching and reduce the time spent on administrative chores. In introducing e-learning, we must make sure that we balance it with other teaching and learning methods. e-learning should recognise that its value is linked to its suitability to individual learning and teaching styles and strategies.</p>	<p>The use of ICTs in education:</p> <p>In particular, the use of ICTs for learning encourages: learner-centred activity; active enquiry-based learning; collaborative work among learners and teachers; and creativity, analytical skills, critical thinking and informed decision-making.</p>

Source: DoE (2004:15)

Table 4.12 shows information from the *Draft White Paper on e-Education* policy. The policy stipulates that every South African manager, teacher and learner in the general and further education and training bands will be ICT capable (that is, use ICTs confidently and creatively to help develop the skills and knowledge they need as lifelong learners to achieve personal goals and to be full participants in the global community) by 2013. The document seeks to ensure that the integration of ICTs becomes part of teaching and learning in the classroom. As shown in the table, the policy states that while e-learning will not replace teachers, it will enhance the quality and reach of their teaching. The policy further states that the use of ICTs for learning encourages learner-centred activity; active enquiry-based learning; collaborative work among learners and teachers; and creativity, analytical skills, critical thinking and informed decision-making. As the goal of the Draft White Paper on e-Education was set to be achieved by the year 2013, South Africa has not yet reached it even after more than a decade.

For the goal of this policy to be reached, there are a number of factors that need to be taken into consideration, such as the actual implementation of the policy and the challenges that teachers experience during the process. In summary, the Draft White Paper on e-Education seems to expect the effective integration of ICTs into teaching and learning regardless of the challenges experienced that hinder the process.

#### **4.7 Summary of the Chapter**

This chapter discussed the results from this qualitative research case study. The purpose of the study was to determine teacher perspectives on the integration of ICTs into the teaching and learning of Sesotho. The design allowed for in-depth analysis and producing findings to answer the two secondary research questions. The results suggest that the use of ICT tools by Sesotho teachers is dependent on a number of factors. These include the availability of ICTs at the school and teachers' knowledge and skills to do so.

Chapter 5 focuses on the findings by reflecting on some of the literature presented in Chapter 2. In addition to this, the chapter will explore the implications of the findings, and make recommendations and suggestions for further research.

# **CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS**

## **5.1 Introduction**

This chapter firstly presents a summary on how the study was conducted, which is followed by a discussion on the key findings and their significance. Thereafter, limitations of the study, implications for practice and recommendations for further research are presented. The chapter ends by concluding the study. It is important to outline the methodological approach used as this is the only study to date in South Africa to examine issues of ICT integration into the teaching and learning of Sesotho, with the specific focus on the perspectives of teachers representing schools from different quintiles.

## **5.2 Summary of the Research**

The study examined teacher perspectives on the integration of ICTs in the teaching and learning process, by exploring teacher views and understandings on the integration of ICTs into the teaching and learning of Sesotho. The study explored participating Sesotho language teachers' perspectives on the teaching and learning of Sesotho by obtaining in-depth information on the challenges and opportunities they experience in integrating ICTs into the teaching and learning of Sesotho.

The study was built on the literature that related to the topic under study. The first premise is that some parents oppose Sesotho being used as a language of instruction as they believe that the language is underdeveloped (Webb et al., 2007). Furthermore, UNESCO (2010) states that parents doubt the potential of the African language as medium of instruction as they believe that their children will not comprehend the content of their subjects adequately if they are taught in an African language. This also is true for Sesotho parents and has an influence on how their children view and value Sesotho.

Secondly, the integration of ICTs into the teaching of Sesotho has the ability to change the negative perceptions of using Sesotho as language of instruction and, moreover, by integrating ICTs into pedagogy, teachers will be able to “take full advantage of the potential of technology to enhance student learning” (Parvin & Salam, 2015:51). The use

of ICTs for teaching and learning brings about new and innovative pedagogical practices that motivate and develop learners' interest in the teaching subject.

The third premise is that a number of studies on ICT integration for teaching languages have been conducted (Liu et al., 2017; Parvin & Salam, 2015; Rosa, 2016) stating the importance of ICTs in teaching languages and how it enhances teaching and learning. However, to date, literature is silent on ICT integration into the teaching of Sesotho as one of the South African languages taught in schools. In addressing this gap, this exploratory study sought to start with an understanding of the views, beliefs, perceptions and experiences of teachers teaching Sesotho, on issues of integrating ICTs into teaching and learning.

Lastly, according to Chai et al. (2011), it is often the case in many developed countries that classes are fully equipped with personal computers. However, the use of ICTs to enhance teaching and learning is not satisfactory. Koehler and Mishra (2009:61-62) affirm this by stating that “[t]eachers often have inappropriate experience with using digital technologies for teaching and learning”. The reason for this could be that many teachers obtained their teaching qualifications before technology was as developed as it is today. Hence, they are not keen on integrating ICTs into teaching and/or do not regard it as valuable for teaching and learning. According to Khan et al. (2012), the lack of specific TK and skills, technology-supported pedagogical knowledge and skills, and technology-related classroom-management knowledge and skills has been identified as a major barrier to technology integration.

A qualitative research approach with multiple case studies was employed in this study and applied to in-service teachers' integration of ICTs for teaching a home language, Sesotho. This was done through the use of lesson plan analysis, semi-structured interviews and document analysis.

This qualitative approach enabled the researcher to explore participating teachers' views and experiences regarding ICT integration into their teaching practices. The approach enabled the researcher to do an in-depth analysis of preferred teaching methods, challenges and opportunities that they experience as they integrate ICTs into the teaching

and learning of Sesotho. In this qualitative approach, participants' most recent lesson plans at the time of study (first semester – January to May 2019) were utilised. Those participants whose lesson plans indicated integration of ICTs into teaching and learning were selected for further participation in the study. The interviews were limited to four participants from quintiles 1 to 4 schools respectively in the same district. The selection of these four participants was followed by interviews. The semi-structured interviews consisted of a number of open-ended questions based on the participants' views and experiences on the integration of ICTs into teaching and learning. Finally, education policy documents were analysed and the data were used to support evidence arising from the semi-structured interviews.

The aim of the study was to answer the main research question: What are the perspectives of Sesotho language teachers in the selected district on the opportunities and challenges of ICT integration into the teaching and learning of Sesotho? To answer the main research question, the study addressed two secondary research questions. Table 5.1 below provides a summary of the instruments that were utilised to collect the qualitative data as related to each secondary research question.

**Table 5.1: Secondary research questions and research instruments**

Research question	Research instruments
1. What are Sesotho teachers' views and understandings of ICT integration into the teaching and learning of Sesotho?	Lesson plan
	Interview
2. How can Sesotho teachers' perspectives of ICT integration for teaching Sesotho be understood and described?	Interview
	Policy documents

Table 5.1 displays the two secondary research questions as well as the research instruments used to collect data. Lesson plan analysis and interviews were used to answer secondary research question 1, which relates to Sesotho teachers' daily teaching experiences. The second secondary research question was answered using data from the interviews and policy document analysis.

Two theoretical frameworks were employed, namely constructivism and the TPACK model. Constructivism is a learning theory that mainly focuses on the construction of new knowledge based on prior knowledge (Koohang et al., 2009). The theory was used to gain an in-depth understanding on how teachers construct knowledge as they integrate ICTs into teaching and learning.

The study was also guided by the TPACK framework. Changes in the teaching profession, namely “understanding of content, understanding of teaching and understanding of technology” (Koehler & Mishra, 2009:67) have escalated the complexity of the teaching process. The study focused mainly on the views and understandings of Sesotho language teachers who teach Sesotho as content with the use of ICTs. The TPACK framework guided this study in unpacking different knowledge components and allowed the researcher to make sense of how to integrate these components into the teaching of Sesotho content.

In addition to the relevant literature being analysed and compared, data were collected from three sources for triangulation purposes. These were lesson plan analysis, interviews and policy document analysis. According to the DoE (2004:17), “every learner in the general and further education phase will be capable to use ICTs effectively and be able to participate in the global community by 2013.” The CAPS document serves as a guideline for teachers on their subject disciplines. The document states that one of its aims is to produce learners that will be able to use technology effectively (DBE, 2011). The researcher examined the significance of the key findings through responding to the question on whether the ICT goals set in these policies are in line with teachers’ daily classroom experiences and practices. The researcher also sought to respond to the question on whether different schools in South Africa are able to achieve these goals. The following section presents a discussion on the key findings of this study.

### **5.3 Key Findings and Significance**

The use of ICTs has increased drastically in the past few years in both developed and developing countries alike. As the relevance of ICT increases across various areas of life, an understanding of its use by teachers for subject teaching becomes urgent. Koehler and

Mishra (2009:61-62) affirm this by stating that “[t]eachers often have inappropriate experience with using digital technologies for teaching and learning”. The main aim of the study was to explore the perspectives of Sesotho language teachers in the one district of South Africa on the opportunities and challenges of ICT integration into the teaching and learning of Sesotho. The significance of the study will be discussed in alignment with the following research objectives:

- To explore Sesotho teachers’ views, understandings and experiences of ICT integration into the teaching and learning of Sesotho.
- To describe Sesotho teachers’ views, understandings and experiences of ICT integration into the teaching and learning of Sesotho.

The findings related to each of these objectives will now be discussed.

### **5.3.1 Participants’ views and understanding on ICT integration in the teaching and learning of Sesotho**

The secondary question to be answered for this section is: What are Sesotho teachers’ views, experiences and understandings of ICT integration into the teaching and learning of Sesotho? Contextual settings and daily experiences were identified as important to explore participants’ views and understandings on the integration of ICTs for the teaching and learning of Sesotho. The study was undertaken in four school contextual settings in one of the districts of the Free State province. Each school represented a quintile from quintiles 1 to 4, respectively. The finding on the contextual settings assisted the researcher to acquire a picture on the availability of ICT tools and how they are used in each of the participating schools. Common factors that surfaced in the findings on school contexts include ICT availability and preferred teaching methods. This section presents the participants’ 1) contextual settings and 2) daily experiences (see Table 4.7).

Regarding the contextual settings, the findings of the study revealed that the availability of ICT tools determined the level at which participants integrated ICTs in teaching. Participants used similar methods when using these tools during their teaching, which include projecting the work, and searching for information and sending information via social media, which require the internet. Lack of ICT tools in schools thus limits teachers

from exploring and practicing different methods of teaching. It is therefore evident that teachers are limited in constructing new knowledge when teaching Sesotho due to the lack of ICT tools for teaching and learning.

In addition, participants' preferred teaching methods influenced how they integrate ICTs into the teaching and learning of their subject as they as teachers are the ones who decide on how they will deliver the content and assess the learners in the classroom. All participants indicated that they preferred using a combination of traditional and computer-based teaching. Although each individual participant had their own reason for their preference, it is evident that the combination of the use of ICTs and traditional methods of teaching ensures that the teaching and learning of Sesotho is successful. One can therefore conclude that all participants have a certain level of TPACK, and therefore to a certain extent are knowledgeable on teaching Sesotho using ICT tools.

Furthermore, participants shared their daily experiences. They explained that they faced a number of challenges with integrating ICTs into the teaching and learning of Sesotho. These challenges inhibited them from using ICTs for their lessons. Participants possessing poor TK experienced technological problems with integrating ICTs into the teaching of Sesotho due to a lack of this knowledge. Participants cited that the lack of information on operating technological devices hinders the process of integrating ICTs into the teaching of their subject, Sesotho.

In some cases, it was identified that infrastructural problems, such as electricity cuts, have hindered the process of using ICTs for teaching and learning. Participants cited that regardless of their plans to integrate ICTs into lessons, if there is no electricity in the schools, they cannot continue with lessons as planned.

In addition to the challenges mentioned above, participants also narrated how the integration of ICTs into the teaching and learning of Sesotho has been beneficial in ensuring that the process is effective. Where traditional teaching and learning material such as textbooks were available, participants cited how they used the available ICT resources to ensure that teaching does not solely depend on traditional methods. Due to the lack of or unavailability of textbooks, participants mentioned projecting the work to

ensure that all the learners get to see the information that they are taught. Participants claimed that the integration of ICTs into lessons ensures that regardless of these challenges, teaching and learning takes place effectively.

Regardless of the challenges above, participants pointed out their constructivist practices on using ICTs to ensure effective teaching and learning. They cited the benefits of using different applications or apps of mobile technologies in the teaching and learning process. They believed that the use of mobile devices benefits both the teachers and learners as they are able to share information and ensure that the teaching and learning process does not end in the classroom but continues to take place even outside of the school premises. Participants cited that mobile devices have applications which can be used to transfer and store information taught and learned in the classroom, such as notes and voice recordings, which learners can use to study even outside the classroom. This encouraged participants to use their mobile devices and to allow learners to bring theirs to school for academic purposes, although it was against the rules of the schools (see Chapter 4 for the discussion).

The next section will discuss the findings from the second theme of the study.

### **5.3.2 Participants' recommendations and suggestions on ICT integration in the teaching and learning of Sesotho**

The secondary question to be answered for this section is: How can Sesotho teachers' perspectives of ICT integration for teaching Sesotho be understood and described? The recommendations and suggestions made by participants on the integration of ICTs into the teaching and learning of Sesotho were identified as important to explore teacher views and understandings on the integration of ICTs for the teaching and learning of Sesotho. This section presents the participants' 1) general perspectives, 2) perspectives directed to the DoE, 3) perspectives directed to school management and 4) teachers' knowledge, understanding and application of education policies.

Regarding general perspectives of participants, the findings revealed that all four participants shared the same sentiment with regard to the availability of online Sesotho content. They all agreed that more online Sesotho content could be beneficial and would

make teaching and learning of the subject more effective as there will be much more information about the subject online. Teachers need online Sesotho content such as dictionaries and e-books. Participants felt that unlike other school subjects, Sesotho has limited online resources and this somehow hinders them to integrate ICTs in teaching Sesotho. Although different school contexts of the participants indicated differences in terms of the availability of ICTs (see Table 4.8), all participants felt that there is an urgent need for the DoE to provide schools with ICT resources. Participants cited that the ICT tools should be owned by the schools. They indicated the need for working computer labs in schools which are accessible for teachers and learners. The need for disadvantaged schools to be elevated to the level of advantaged schools with regard to the availability of ICTs for teaching and learning was also highlighted. The availability of ICTs in schools is an important issue for teachers, as they are the ones who need to use the tools to ensure effective teaching and learning.

Secondly, the findings of the study revealed that teacher training and development for ICT integration in the teaching of Sesotho is a matter that still needs to be addressed, as related by participants. Three of the participants had not received training on the use of ICTs for the teaching of Sesotho. One of the participants mentioned not having been to any ICT training, while two others had been trained on the use of ICTs, although this was for their other subjects and not specifically for Sesotho. These three participants were from the three schools from the lower quintiles participating in this study and indicated less ICT tools available compared to the participant from the quintile 4 school (see Table 4.8).

Participants cited their suggestions on how training and development on ICT integration should be conducted. They suggested that since most teachers who teach Sesotho are quite old, they should receive training on ICT integration as they may lack knowledge on the use of ICTs. In addition, they suggested that training of all teachers should not be a once-off project but continuous because of the frequent developments in technology.

Thirdly, the findings revealed participant perspectives directed to school management on how they can contribute to improving the integration of ICTs into the teaching and learning of Sesotho. All four participants raised a concern with regard to school code of conduct

prohibiting learners from using cell phones on school premises. They raised concerns about this as they regarded cell phones as devices that many learners have access to and that can contribute to the integration of ICTs into teaching and learning. The participants recommended that changes need to be made to schools' codes of conduct to allow learners to bring mobile devices to school. Where participants mentioned allowing learners to use cell phones at school, they cited that although the school code of conduct does not allow for that, they take the risk to allow it because learners are able to receive information needed from them through the use of their cell phones. They felt that their schools' codes of conduct need to be amended to enable a new practice of teaching and learning with the use of ICTs.

Finally, the findings revealed that the education policies analysed include ICT integration into the teaching and learning. All participants seemed to regard CAPS as a significant policy for the teaching of Sesotho. They all seemed to be using the policy as their guideline in the teaching of Sesotho. The findings indicate that CAPS is more focused on the teachers' CK and is silent about their TPACK. There is more emphasis on what should be taught, but the policy is silent on how the content should be taught. In addition to this, although all participants integrated ICTs into their teaching, the findings show that they have no idea of any ICT policies which guide them in their practice. They still lack knowledge on the available ICT policies in education and therefore do not follow the stipulations within those policies. In addition to this, there is no specific ICT policy on the teaching and learning of Sesotho, which leads to teachers depending fully on CAPS for guidelines on the teaching of Sesotho.

#### **5.4 Limitations to the Study**

There were various limitations that could have affected the outcomes of this study. Firstly, the lesson plans collected and analysed were for one semester only. Therefore, there was no comparison with lesson plans from other semesters to analyse use of ICTs in lessons. In addition to this, a teacher's use of ICTs could change from time to time depending on a number of factors, such as preferred methods of teaching and school context.

In addition, the study focused on perspectives of teachers who had had at least five years' experience of teaching Sesotho. A comparative study on the perspectives of teachers with less than five years of Sesotho teaching experience may provide more insights on the issue under study because teachers may have different views, understandings and experiences.

Furthermore, the study was conducted in one district, with only one school from quintiles 1 to 4 and one participant from each school. Caution should be taken to extend the results to other schools within similar contexts as those represented in the study because the challenges and opportunities faced by schools are different regardless of the similarity in the context and teachers may respond differently. A similar study may be conducted with more participants and even more districts in the province to compare data.

## **5.5 Implications and Recommendations for Practice, Policy and Further Research**

The following section presents the possible implications based on the results of the study. The implications have been divided into three categories: teaching practice, curriculum policy and future research.

### **5.5.1 Implications and recommendations for practice**

As the study explored teachers' views and understandings on ICT integration from participants from different school contexts, it was expected that the challenges and opportunities experienced will differ. For example, the availability of ICT resources in quintiles 1 and 4 schools should be expected to vary. In addition to this, teacher practices with the integration of ICTs into the teaching and learning of Sesotho should be expected to vary because each teacher is exposed to a different contextual setting and has their own preferred methods on how to integrate ICTs into their practice. One of the challenges that participants encountered is the lack of knowledge and skills on the integration of ICTs into the teaching of Sesotho. Therefore, there is an urgent need to establish support systems to overcome the challenges experienced by teachers in integrating ICTs into the teaching and learning of Sesotho.

### **5.5.2 Implications for curriculum policy**

The findings indicated that lack of ICT tools in schools thus limits teachers from exploring and practicing different methods of teaching. The DoE could assist in providing ICT resources to schools and ensuring that there is proper maintenance of those resources as they continue to be used in schools. The findings in the study also indicated that participants had hardly been trained in using ICTs to teach Sesotho. There is a need to train teachers on this, and that could be done through collaboration between the DoE, schools and institutions of higher learning. The collaboration could involve the ongoing training of teachers, which could be monitored and reflected on to determine the results and areas that need improvement.

### **5.5.3 Implications for future research**

As was indicated in the section presenting the limitations of the study, the present study relied on the analysis of lesson plans collected over a period of one semester. It is thus recommended that future research should consider a longer period from which to collect data and more participants to participate. Furthermore, the study focused on the perspectives of teachers who had had at least five years' experience of teaching Sesotho. A comparative study on the perspectives of teachers with less than five years of Sesotho-teaching experience may provide more insights on the issue under study. In addition, the study was conducted in one district, with only one school from quintiles 1 to 4 and one participant from each school. A similar study is recommended with more participants and even more districts in the province to compare the data.

This study was guided by the TPACK and constructivism frameworks in making sense of the data. Both frameworks have been used in a number of studies internationally and in South Africa focusing specifically on the use of ICTs for the teaching and learning of specific subjects (see Table 2.1). However, to date, literature is silent on studies similar to the present one which focus on the integration of ICTs in the teaching and learning of African languages. Future studies on this topic may therefore contribute to closing the gap on the issues of ICT integration for the teaching and learning of African languages. In

addition to this, future studies may also focus on ICT integration for teaching and learning from the learners' perspective.

The next section presents the conclusion of this study.

## 5.6 Conclusion

Many developed and developing countries continue to invest in ICTs in different sectors, including education. South Africa has also made efforts to ensure that there is provision of resources and introduction of policies on ICT usage in schools.

The importance of using technology in teaching and learning can only be recognised if teachers actually integrate ICTs into their teaching (Chigona et al., 2014). The findings in this study indicate that the use of ICTs in teaching depends on schools' contextual settings. The data on the contextual setting of schools represented in this study indicated that the lower the level of school quintile, the less ICT tools are available in the school. This makes it difficult for teachers in lower quintile schools to engage in lessons that are technologically driven and it also creates the *digital divide* among schools under other quintiles within the same district.

In addressing the issue of the *digital divide*, there is a need to focus on provision of ICT tools to all schools, irrespective of quintile level, and to provide the teachers with proper training, with specific focus on Sesotho and other African languages as a subject. The DoE needs to be aware of the challenges experienced by teachers with regard to ICT resources and knowledge and skills on the use of ICTs. The DoE and schools need to ensure that teachers receive training and support and ensure sustainability in the process by ensuring that it is continuous and that progress is monitored.

Despite challenges cited by participants with regard to the integration of ICTs and their lack of knowledge of ICT policies on the teaching and learning of Sesotho, it is encouraging that all participants preferred using both traditional and computer-based teaching methods.

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# Appendix A: Ethical clearance UFS Faculty of Education



## GENERAL/HUMAN RESEARCH ETHICS COMMITTEE (GHREC)

13-Aug-2019

Dear Miss Filita, Naledi NJ

### Application Approved

Research Project Title:

**Teachers' perspectives of information and communication technology integration in the teaching and learning of Sesotho**

Ethical Clearance number:

**UFS-HSD2019/0580/1308**

We are pleased to inform you that your application for ethical clearance has been approved. Your ethical clearance is valid for twelve (12) months from the date of issue. We request that any changes that may take place during the course of your study/research project be submitted to the ethics office to ensure ethical transparency. Furthermore, you are requested to submit the final report of your study/research project to the ethics office. Should you require more time to complete this research, please apply for an extension. Thank you for submitting your proposal for ethical clearance; we wish you the best of luck and success with your research.

Yours sincerely



**Prof Derek Litthauer**

**Chairperson: General/Human Research Ethics Committee**



Digitally signed

by Derek

Litthauer

Date: 2019.08.14

11:11:32 +02'00'

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# Appendix B: Letter to the Free State Department of Education

The Senior Education Officer

The Free State Department of Education

## REQUEST FOR PERMISSION TO CONDUCT RESEARCH

Dear sir/ Madam

I hereby request permission to conduct research at secondary schools in the Motheo district of the Free State province.

My name is Naledi Judith Filita; I work for the Free State department of education as a teacher in one of the Secondary schools in Motheo district. I am presently studying for a Master's degree with the University of the Free State, and as part of my Master's program I am required to conduct research on an aspect of interest with a purpose of contributing to the knowledge and understanding of the issue under study. The title of my research is:

*Teachers' perspectives of information and communication technology integration in the teaching and learning of Sesotho*

The purpose of the study is to explore the perspectives of teachers on ICT integration in the teaching and learning of Sesotho. I am particularly interested in the perspectives of secondary school teachers who teach Sesotho as home language in the Motheo district; the challenges and opportunities that they come across then teaching using ICT, and how the use of ICT can be improved to enhance the teaching and learning of Sesotho. Firstly, the study has the potential benefit the teachers who teach Sesotho by exposing challenges and opportunities they experience when integrating ICT into the teaching and learning process. Secondly, it will also make them aware of the pedagogical practices applied by other teachers when implementing the Sesotho curriculum. Finally, it may assist in making the policy makers aware of the existing gap between the policies expectations and classroom practices when it comes to ICT integration for teaching and learning.

10 teachers from 10 different schools will be requested to provide the researcher with completed lesson plans. 5 lesson plans out of those 10 will be selected to further take part in the interview. Each interview will take 30-45 minutes will take place at an arranged time after school hours. I undertake to respect confidentiality and privacy of the participating teachers. No names of schools and/ or people will be revealed

in the report, or any publication related to this study. Participants will be informed that their participation is voluntary and that they have a right to withdraw anytime they wish to do so.

Upon completion of the study, I undertake to provide the research report to the department of Education and to share the findings of my research with the teachers who teach Sesotho and the rest the teachers in various meetings and conferences.

If you need any further information and / or have any suggestions, please do not hesitate to contact me and / or my supervisor Dr Thuthukile Jita on 051-4017441 or JitaT@ufs.ac.za.

Thank you for your kind consideration of my request

Yours sincerely

Filita N.J.

(Cell: 0710229236/ e-mail: [2009011509@ufs4life.ac.za](mailto:2009011509@ufs4life.ac.za))

# Appendix C: Free State Department of Education permission to conduct research

Enquiries: KK Motshumi  
Ref: Notification of research: NJ Filita  
Tel. 051 404 9221 / 079 503 4943  
Email: K. Motshumi@fseducation.gov.za



District Director  
Motheo District

Dear Mr Moloji

## NOTIFICATION TO CONDUCT RESEARCH PROJECT IN YOUR DISTRICT BY NJ FILITA

The above mentioned candidate was granted permission to conduct research in your district as follows:

1. **Topic:** Teachers' perspectives on the integration of ICT into the teaching and learning of Sesotho.

**List of schools involved:** Comtech, Hodisa, Kgorathuto, Lenyora la Thuto, Martie du Plessis, Mpatleng, Navaisig, Senakangwedi, Setjhaba Se Maketse and Unicom.

**Target Population:** All Grade 8-12 teachers teaching Sesotho at the above mentioned schools..

2. **Period:** From date of signature of this letter until 30 September 2019. Please note the department does not allow any research to be conducted during the fourth term (quarter) of the academic year nor during normal school hours.
3. **Research benefits:** The study will express teachers' views and understanding about the integration of ICT into the teaching and learning of Sesotho as they will be interviewed and may be able to verbally share their experiences. It will also assist in understanding the connection between the Sesotho teacher's content knowledge, classroom practices and policies' expectations and stipulations, which may help provide a basis for a rethink and/or re-design and development of the teacher education from professional development. The study will contribute in determining strengths and areas of weakness of teachers when it comes to ICT integration into teacher and learning so that the Department come up with plans to ensure that in-service Sesotho teachers gain the necessary knowledge and skills to integrate ICT into the teaching and learning of their subject. The study will also assist the Department to realise the gap between the policies expectations on ICT integration for the teaching and learning and their actual classroom practices.
4. Logistical procedures were met, in particular ethical considerations for conducting research in the Free State Department of Education.
5. Strategic Planning, Policy and Research Directorate will make the necessary arrangements for the researchers to present the findings and recommendations to the relevant officials in the district.

Yours sincerely

  
DR JEM SEKOLANYANE  
CHIEF FINANCIAL OFFICER

DATE: 24/07/2019

NJ Filita  
266 Section C  
**BOTSHABELO, 9781**

Dear Ms Filita

#### APPROVAL TO CONDUCT RESEARCH IN THE FREE STATE DEPARTMENT OF EDUCATION

1. This letter serves as an acknowledgement of receipt of your request to conduct research in the Free State Department of Education.

**Topic:** Teachers' perspectives on the integration of ICT into the teaching and learning of Sesotho

**List of schools involved:** Comtech, Hodisa, Kgorathuto, Lenyora la Thuto, Martie du Plessis, Mpatieng, Navalsig, Senakangwedi, Setjhaba Se Maketse and Unicom.

2. **Target Population:** All Grade 8-12 teachers teaching Sesotho at the above mentioned schools.
3. **Period of research:** From the date of signature of this letter until 30 September 2019. Please note the department does not allow any research to be conducted during the fourth term (quarter) of the academic year. Should you fall behind your schedule by three months to complete your research project in the approved period, you will need to apply for an extension.
4. The approval is subject to the following conditions:
  - 4.1 The collection of data should not interfere with the normal tuition time or teaching process.
  - 4.2 A bound copy of the research document or a CD, should be submitted to the Free State Department of Education, Room 319, 3<sup>rd</sup> Floor, Old CNA Building, Charlotte Maxeke Street, Bloemfontein.
  - 4.3 You will be expected, on completion of your research study to make a presentation to the relevant stakeholders in the Department.
  - 4.4 The ethics documents must be adhered to in the discourse of your study in our department.
  - 4.5 Please note that costs relating to all the conditions mentioned above are your own responsibility.

Yours sincerely

  
DR JEM SEKOLANYANE  
CHIEF FINANCIAL OFFICER

DATE: 24/07/2019

## Appendix D: Interview invitation letter for participants

The Sesotho home language teacher

### INVITATION TO PARTICIPATE IN A RESEARCH STUDY

Dear sir/ Madam

I hereby invite you to participate in a research study.

My name is Naledi Judith Filita; I work for the Free State department of education as a teacher in one of the Secondary schools in Motheo district. I am presently studying for a Master's degree with the University of the Free State, and as part of my Master's program I am required to conduct research on an aspect of interest with a purpose of contributing to the knowledge and understanding of the issue under study. The title of my research is:

*Teachers' perspectives of information and communication technology integration in the teaching and learning of Sesotho*

The purpose of the study is to understand the concerns, feelings and experiences of teachers on ICT integration in the teaching and learning of Sesotho. I am particularly interested in the perspectives of secondary school teachers who teach Sesotho as home language in the Motheo district; the challenges and opportunities that they come across then teaching using ICT, and how the use of ICT can be improved to enhance the teaching and learning of Sesotho.

You have been selected to participate in this study is because you are a secondary school teacher who teaches Sesotho as a home language and have been teaching for not less than five years. The lesson plan that you provided consisted of the rich data for the study and also because of the quintile that your school falls under. Firstly, the study has the potential benefit you and other teachers who teach Sesotho by exposing challenges and opportunities they experience when integrating ICT into the teaching and learning process. Secondly, it will also make them aware of the pedagogical practices applied by other teachers when implementing the Sesotho curriculum. Finally, it may assist in making the policy makers aware of the existing gap between the policies expectations and classroom practices when it comes to ICT integration for teaching and learning.

The study will involve a face-to-face interview which will take 30-45 minutes and will take place at an arranged time after school hours.

Your responses will remain confidential and will be used for research purposes only. Participants will not be intentionally exposed to any form of harm during the study. Please note that participation in the study is voluntary and you are free to opt out of the study at any time if you wish.

The study's findings are meant for educational use only.

If you need further information or should you have concerns about the way in which the research has been conducted you may contact me or my supervisor Dr Thuthukile Jita on 051-4017441 or [JitaT@ufs.ac.za](mailto:JitaT@ufs.ac.za)

Yours Sincerely

Filita N.J.

(Cell: 0710229236/ e-mail: [2009011509@ufs4life.ac.za](mailto:2009011509@ufs4life.ac.za))

## Appendix E: Consent to participate in the study

I, ..... (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet. I have had sufficient opportunity to ask questions and I am prepared to participate in the study. I understand that my participation is voluntary and that I am free to withdraw anytime without penalty (if applicable). I am aware that the findings of this study will be anonymously processed into a research report, journal publications and/ or conference proceedings.

I agree to the recording of the insert specific data collection method.

I have received a signed copy of the informed consent.

Full Name of Participant.....

Signature of Participant.....Date.....

Full Name(s) of Researcher(s).....

## Appendix F: Lesson plan content analysis protocol

Lesson planning form analysis

Participant	Lesson plan	Phase (Grade)	Which ICT resources were used for the teaching and learning of Sesotho	How ICT tool(s) was (were) to be used

# Appendix G: Document analysis protocol

Document	General emerging data from the policies	Expectations from teachers	Expectations from learners

## Appendix H: Interview protocol

Topic: Teachers' perspectives on the integration of ICT into the teaching and learning of Sesotho

1. Background information.
  - a. What subjects are you currently teaching?
  - b. How many years have you been teaching?
  - c. How many years have you been teaching Sesotho?

Now I will ask questions relating to Information and Communication Technologies (ICTs). By ICTs I mean a lot of different things such as computers, laptops, tablets, whiteboards, software programmes (such as Microsoft word, excel), online tools, etc.

2. Let us discuss how you teach your subject, Sesotho?
  - a. How would you prefer to teach Sesotho?
    - I. Using traditional methods of classroom like textbooks and chalkboards, or
    - II. You would prefer to use ICTs such as computers , projectors, tablets, software programmes ( like the internet, Microsoft word, etc) and other computer based tools ?or
    - III. Would you prefer to use some combination of traditional and computer-based teaching?
  - b. Why do you prefer (a), (b) or (c) selection?
  - c. If the response is (a) , why would you not choose (b) or (c) [then skip (d)]
  - d. Please provide a brief description of the ways in which you use (b) or (c) in teaching Sesotho.
3. Let us talk about your experiences [challenges and opportunities] of ICT integration into teaching and learning.
  - a. Can you tell me about the ICT tools/facilities available at your school?
  - b. Which of the facilities do you use when teaching? Explain how

- c. Which ICT tools/facilities are available at your school for learners to use? How do they use them in your class?
  - d. Are there typically problems you observe or have experienced when using ICT in the teaching of Sesotho? If so, give a brief description of the problem.
  - e. When you use the ICT [specify the tool that the participant had mentioned in the previous questions] what do you do in the classroom now that you would not be able to do if the device/s were not present?
  - f. Did the use of ICT have a positive outcome on the way you taught a particular concept? If so describe the benefit.
4. Let us talk about how the integration of ICT into the teaching and learning can be used to improve Sesotho teaching.
- a. Can you describe any developments that you would like to see in the use of ICT that would improve the teaching of Sesotho?
  - b. Were you trained to integrate ICT into the teaching and learning of Sesotho? If yes, what type of training did you receive? From whom did you receive training?
  - c. Which policies guide you in teaching Sesotho using ICT? How do you ensure that you meet those expectations?
  - d. Can you mention three things that you think should be done to improve the integration of ICT into the teaching and learning? Explain each suggestion.
  - e. What can the following stakeholders do to improve the teaching of Sesotho using ICT?
    - The Department of Education
    - The school management
5. Do you have any other suggestion on how ICT integration into the teaching and of Sesotho can be improved?

# Appendix I: Letter to principals

The School Principal

.....Secondary School

## REQUEST FOR PERMISSION TO CONDUCT RESEARCH

Dear sir/ Madam

I hereby request permission to conduct research with the Sesotho teacher in your school.

My name is Naledi Judith Filita; I work for the Free State department of education as a teacher in one of the Secondary schools in Motheo district. I am presently studying for a Master's degree with the University of the Free State, and as part of my Master's program I am required to conduct research on an aspect of interest with a purpose of contributing to the knowledge and understanding of the issue under study. The title of my research is:

*Teachers' perspectives of information and communication technology integration in the teaching and learning of Sesotho*

The purpose of the study is to explore the perspectives of teachers on ICT integration in the teaching and learning of Sesotho. I am particularly interested in the perspectives of secondary school teachers who teach Sesotho as home language in the Motheo district; the challenges and opportunities that they come across then teaching using ICT, and how the use of ICT can be improved to enhance the teaching and learning of Sesotho. Firstly, the study has the potential benefit the teachers who teach Sesotho by exposing challenges and opportunities they experience when integrating ICT into the teaching and learning process. Secondly, it will also make them aware of the pedagogical practices applied by other teachers when implementing the Sesotho curriculum. Finally, it may assist in making the policy makers aware of the existing gap between the policies expectations and classroom practices when it comes to ICT integration for teaching and learning.

The interview will take 30-45 minutes and will take place at an arranged time after school hours.

I undertake to respect confidentiality and privacy of the participating teachers. No names of schools and/ or people will be revealed in the report, or any publication related to this study. Participants will be informed that their participation is voluntary and that they have a right to withdraw anytime they wish to do so.

Upon completion of the study, I undertake to provide the research report to the department of Education and to share the findings of my research with the teachers who teach Sesotho and the rest the teachers in various meetings and conferences.

If you need any further information and / or have any suggestions, please do not hesitate to contact me and / or my supervisor Dr Thuthukile Jita on 051-4017441 or [JitaT@ufs.ac.za](mailto:JitaT@ufs.ac.za).

Thank you for your kind consideration of my request

Yours sincerely

Filita N.J.

(Cell: 0710229236/ e-mail: [2009011509@ufs4life.ac.za](mailto:2009011509@ufs4life.ac.za))

## Appendix J: Editor's letter



17 Fallopius Street, Bloemfontein

+(27) 076 081 0730

info@rephraseit.co.za



17 February 2021

**Student:** N Filita  
**Student no.:** 2009011509

I declare that I edited the master's dissertation titled, *Teachers' perspectives on the integration of information and communication technology into the teaching and learning of Sesotho*

During the editing process, I looked for and corrected spelling, grammar, punctuation, sentence and paragraph errors. Where I noticed inconsistencies or unclarity in the text, I made comments to draw the author's attention to the inconsistency or unclarity. I also made suggestions where changes could be made. I double-checked the references in-text and in the reference list to make sure that they are consistent throughout. Where sources or source information were missing, I indicated such to the author so that she could locate and add the missing information. Finally, I formatted the document to present neatly.

Yours sincerely

Johannes Pieter Odendaal

A handwritten signature in black ink, appearing to read "J Odendaal".



# Appendix K: Plagiarism Report

## Turnitin Originality Report

Processed on: 07-Dec-2020 10:06 SAST  
ID: 1422714612  
Word Count: 36673  
Submitted: 3

Thesis By Naledi Filita

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