Sign language challenges encountered by deaf learners born to hearing parents

by

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Dedication

I dedicate this study to my two late grandmothers, Mirriam and Nana, who invested all their hard-earned money in my education and future. They taught me that education should be the first priority that I work hard for and strive to achieve. I will forever be grateful for their teachings.

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Ethical clearance certificate

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RESEARCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE	CLEARANCE NUMBER: **EP 19/08/01**
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This Ethics Clearance Certificate should be read in conjunction with the Integrated Declaration Form (D08) which specifies details regarding:
- Compliance with approved research protocol,
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Declaration of originality

I, Sinenhlanhla Precious Dlamini (student number 16009607), declare that this dissertation, which I hereby submit for the degree Magister Education in Educational Psychology at the University of Pretoria, is my own work and has not previously submitted by me for a degree at any other tertiary institution.

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To whom it may concern

This is to certify that I, Alexa Kirsten Barnby, an English editor accredited by the South African Translators' Institute, have edited the master's thesis titled "Sign language challenges encountered by deaf learners born to hearing parents" by Sinenhlanhla Precious Dlamini.

The onus is on the author, however, to make the changes and address the comments made.

Abstract

Sign language challenges encountered by Deaf learners born to hearing parents

In 1994, South Africa dedicated itself to a democracy for all in line with the constitutional principles of equality and equity as stated in White Paper 6. An attempt was made and is still being made to change the South African education system from one of "total inadequacy" that was governed on the basis of, for example disability, culture, language and race, to an inclusive policy or structure that aims to meet the diverse needs of all South African learners (Department of Education, 2001, p. 12).

This study sought to identify the challenges encountered by deaf learners born to hearing parents when using sign language. Sign language is a method of teaching and learning for deaf learners and also provides a communication method at home and at school from early childhood. Stander, Plaatje, and McIlroy (2017) indicate that deaf children born to hearing families encounter challenges in learning and communicating using sign language at home.

This study adopted a qualitative method using a descriptive case study as the research design. The data collection methods included interviews, lesson observations and reviewing of official documents, as well as the use of audio, video and field notes as recording instruments. A purposeful sampling of six deaf learners, their hearing parents and experienced teachers were included in the study. The theoretical framework used for this study was Vygotsky's sociocultural perspective of development, which includes theories about language, culture and cognitive development. The study was furthermore approached from an interpretivist paradigm.

The findings indicate that sign language challenges encountered by deaf learners were enhanced by being born into a hearing family that does not have a background in sign language. In addition, language acquisition delays are exacerbated by parental denial of deafness, late discovery of deafness, and the deaf child growing up in a predominantly hearing community. In addition, the findings obtained from the study indicate that teachers' training in SASL and the use of visual material have a

significant impact on the deaf learners' acquisition and learning of sign language. These findings, which focused on South African data, could be utilised to further address issues of SASL acquisition by deaf children.

Key terms: deaf learners, SASL, hearing parents, sign language challenges

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List of acronyms and abbreviation

APA	American Psychological Association
ASL	American Sign Language
BICS	Basic Interpersonal Communication Skills
BSL	British Sign Language
CALP	Cognitive Academic Language Proficiency
CAPS	Curriculum Assessment Policy Statement
DBE	Department of Basic Education
DCBR	Deaf Children Bill of Rights
DeafSA	Deaf Federation of South Africa
FN	Field Notes
FSL	France Sign language
HP	Hearing Parents
IDEA	Individuals with Disabilities Education Act
LOLT	Language of Learning and Teaching
NAD	National Association of the Deaf
NCLB	No Child Left Behind
OBS	Observation
SANCD	South African National Council for the Deaf
SASL	South African Sign Language
SIAS	Screening Identification Assessing and Support
UDL	Universal Design for Learning
UNCRP	United Nations Convention on the Rights of Persons with Disabilities
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNHS	Universal Neonatal Hearing Screening
ZPD	Zone of Proximal Development

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CHAPTER 1

INTRODUCTION

1.1   INTRODUCTION

In 1994, in line with the constitutional principles of equality and equity as stated in White paper 6, South Africa dedicated itself to a democracy for all. An attempt was made and is still being made to change the South African education system from one of "total inadequacy" and governed on the basis of, for example disability, culture, language and race, to an inclusive policy or structure that aimed to meet the diverse needs of all South African learners (Department of Education, 2001, p. 12). Therefore, in this study I sought to identify the challenges encountered by deaf learners born to hearing parents when using sign language. Sign language is a method of teaching and learning for deaf learners which provides a communication method both at home and at school from early childhood.

1.2   INITIAL LITERATURE REVIEW

Stander et al. (2017) indicate that deaf children born to hearing families encounter challenges in learning and communicating using sign language at home. A possible reason for this challenge is that hearing families have no exposure to or may have little knowledge of sign language. Furthermore, deaf children are often only exposed to sign language once they have met a deaf person, or when they are enrolled at a school for the Deaf (Stander et al., 2017).

Clark, Hauser, Miller, Kargin, Rathman, Guldenoglu and Israel (2016) agree that deaf children, in the majority of cases, are raised in hearing families. Hearing parents tend to rely on spoken language or they are beginner signers, therefore deaf children mostly do not have adult models who are fluent in sign language and this could lead to a delay in learning sign language in the home environment.

Kumar (2015) explains that in countries such as India, China and South Africa, the Universal Neonatal Hearing Screening (UNHS), a tool or an instrument used to screen children's hearing from an early age, has not been implemented well compared to other countries. Courtin (2000) indicates that in France, for example, emphasis is placed on educational practices as a strategy to solve problematic sign

language acquisition encounters. The French Sign Language (FSL) is recognised in all education institutions (Courtin, 2000). This educational practice of inclusiveness allows deaf children to be completely engaged in the use of sign language, as there is a supportive structure to encourage sign language acquisition (Courtin, 2000). In the United Kingdom, Macsweeney, Waters, Brammer, Woll, and Goswami (2008) found that English as a spoken language and the British Sign Language (BSL) function on different levels, which complicates communication for deaf people.

Accordingly, after a thorough literature search, the research gap identified for this study was that a limited amount of research has been conducted on sign language acquisition to date and the challenges involved have not been precisely identified as result of the lack of continued research over that last 50 years. It thus became clear to me as a researcher that much of the data and literature on sign language acquisition are outdated or irrelevant.

1.3   RATIONALE FOR UNDERTAKING THE STUDY

My interest in undertaking this study was initiated when one of my former learners in Grade 5 had a deaf mother. Whenever the mother visited the school to enquire about the progress of their child, to collect a report or to attend parent meetings, she had to be accompanied by her hearing friend who could interpret what was being communicated by me or in the meeting. I was motivated by the way they signed to each other and was eager to know more about sign language.

Having taught in a mainstream school I had dealt with a diversity of learners in terms of culture and intellectual level, as well as with different learning barriers, but I had never been exposed to deafness or sign language. Inclusive education is a policy that is broad in accommodating learners with diverse differences and abilities (Department of Education, 2001). Therefore, I wanted to explore the challenges presented by deafness and sign language which differed from what I encountered on a daily basis, as well as to extend my understanding of different learning barriers within inclusive education and to find out more about South African Sign Language (SASL).

As deaf learners are not accommodated in mainstream schools but have their own schools for the Deaf, the only strategy I could use to engage with deaf learners and

obtain a better understanding of their challenges with sign language was by conducting research, thus by collecting information on the experiences of deaf learners, their hearing parents and their teachers regarding sign language acquisition. Through my experiences with SASL, I have realised how sign language has remained a barrier to hearing people in communicating with deaf people. In this research study, the sign language challenges encountered by deaf learners born to hearing parents were investigated.

1.4   PURPOSE AND AIM OF THE STUDY

The purpose of this study was to examine the challenges that deaf learners encounter in using and acquiring South African Sign Language (SASL). The study investigated the acquisition and use of sign language by deaf learners. It furthermore explored the support structures offered by their hearing parents and educators. Macsweeney et al. (2008) indicate that about 95% of deaf children are born to hearing parents that are non-native signers, and therefore there might be a possible delay in the exposure to a signed language. Furthermore, the acquisition and use of sign language are more complicated when comparing deaf native and non-native signers. This study therefore exclusively focused on non-native signers (Macsweeney et al., 2008).

According to Lakkala et al. (2019), it is essential to explore issues pertaining to the education of deaf learners and specifically to focus on how learning and teaching take place. It is only through an awareness of deaf learners' experiences that society and the education system, in particular, can respond positively to the needs and rights of deaf learners.

1.5   RESEARCH QUESTIONS

The following research questions guided this study:

Primary question

- What are the sign language challenges experienced by deaf learners born to hearing parents?

Secondary questions

- What are the factors influencing deaf learners' use of sign language?
- How can hearing parents support their deaf child in acquiring sign language?
- How can teachers support deaf learners to enhance their use of sign language?

1.6 WORKING ASSUMPTIONS

The first assumption of the study is that deaf children born to hearing parents encounter particular difficulties in acquiring and optimally using sign language. This assumption relates to the viewpoint of Lederberg, Schick, and Spencer (2012), who indicate that research has shown that more than ninety percent of deaf children are born to hearing families, many of whom, have had no previous experience with a deaf person. This affects learners' acquisition and use of sign language. The second assumption is that the social environment in which deaf learners live is mostly where spoken language is used. Consequently, deaf children may encounter exclusion and discrimination. Stander et al. (2017) state that deaf children are disabled not by their deafness but by their social environment.

1.7 CONCEPT CLARIFICATION

1.7.1 Inclusive education

Lakkala et al. (2019) describe inclusiveness as a desired method of education, because it places emphasis on equality and quality in education. The aim of inclusive education is supporting marginalised and excluded groups and to ensure all diverse needs are met. Thus, in this study, deaf learners are part of an inclusive education paradigm that emphasises meeting the diverse needs of deaf learners.

1.7.2 Learning difficulties

According to Woolfolk (2010), one of the early explanations of learning disabilities or difficulties is that learning involves many factors and challenges which can lead to language, mathematics and/or attention problems. It might also lead to behavioural and emotional problems. This study intends to address and understand the

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difficulties that deaf learners encounter in the process of learning and using sign language.

1.7.3 Deaf

Kenney (2015) explains that "Deaf" is written in upper case to describe hearing impaired individuals as a minority group, with their own traditions and culture, and who basically communicate using sign language. Thus this concept relates to the current study as it focuses on deaf learners.

1.7.4 Hearing parents

Stander et al. (2017) state that the term "hearing" in deaf culture is used to refer to people or a community that uses spoken language. In this study, it refers to hearing parents, thus parents who can communicate using spoken language.

1.7.5 South African Sign Language

Flaherty (2015) states that SASL is the method of manual communication used by many deaf or hard-of-hearing people. It has its own syntax and morphology and many countries have their own sign language. SASL is the official sign language for the Deaf in South Africa. Challenges pertaining to the acquisition and use of the SASL, in particular, are discussed in this study.

1.8 PARADIGMATIC CHOICES

Research is about people's perspectives on the world, their perceptions of knowledge, their comprehension of the world, what they think understanding is, and what they regard as the goal of understanding (Maree, 2016).

1.8.1 Theoretical framework

The theoretical framework of this study was informed by Vygotsky's socio-cultural perspective of development, which includes theories about language, culture and cognitive development. Hence the theory is still relevant and applicable to the 21st century as it discusses issues related to deafness; moreover, it is pertinent to this study. This theory has influenced the fields of psychology and education on many levels (Vygotsky, 1993). Vygotsky (1993) explains deafness as normal and not an illness, as it indicates the mere non-appearance of one of the founding sensory links

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with the environment. Vygotsky (1993) further states that sign language acquisition is a necessary foundation laid down in preschool education and at home, particularly in the teaching of speech. Some important aspects of Vygotsky's theory in relation to children's development and learning a language are the role of social interaction and the zone of proximal development.

Vygotsky implemented a comprehensive inclusive theoretical framework to encourage compassionate practices in special needs education during the 20th century (Gindis, 1999). Vygodskaya (1999) states that Vygotsky worked at the Moscow Institute of Psychology in Russia, as the head of the section concerned with the education of children with special needs, and that is where he uncovered the need to publish articles and inform practice in the area of "Problems in the education of children who are blind, deaf-mute and with mental retardation" (Vygodskaya, 1999, p. 330).

Vygotsky was a ground-breaking theorist who is recognised by leading educationists and psychologists as one of the founders of special needs education (Langford, 2005). Langford (2005) furthermore states that Vygotsky's theory is the foundation of constructivism; a theory which brought a broader understanding aimed at comprehending knowledge of culture, historical and philosophical contexts influenced by Marxist and Hegelian philosophies (Langford, 2005).

1.8.2   Epistemology

Maree (2016) explains epistemological assumptions as knowledge that can be viewed in one or two ways (epistemological and ontological). Therefore, the epistemology for this study comprised an interpretive paradigm, as it attempted to generate reality as seen by the individual. The reality was interpreted to ascertain the fundamental meaning of events and activities (Sefotho, 2018). As a researcher, it offered me an opportunity to interpret and understand how deaf learners view the acquisition and use of sign language.

The advantages of using interpretive paradigm are that I had an opportunity to engage personally with participants, ask them questions and to understand their individual experiences. The disadvantages were that I had to remain neutral and not be biased regarding the experiences of participants shared during data collection.

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However, reviewing and listening to the data collected, and assisted by my supervisor, allowed me not to generalise the findings as that was not the aim of my study.

1.8.3   Methodological approach

The methodological approach used in this study is a qualitative method. Qualitative research is about how people live (Polkinghorne, 2005) and its purpose is to shed light on and to explain their experiences, Qualitative research is of benefit to understand underlying reasons, opinions and motivations of certain behaviours or attitudes in different situations .Furthermore, McMillan and Schumacher (2014) explain qualitative approach as a method that requires, for example, face-to-face interviews or observations to gather data from people in their usual living situations. In addition, McMillan and Schumacher (2014) further aver that qualitative research method also generates openness, encouraging participants to multiply on their responses and has an ability to open ideas for future research. I chose this method because I did not want to limit participants in sharing their lived experiences.

The potential value that the qualitative approach held for the study is that it viewed in-depth the challenges of sign language use and acquisition. The qualitative data gathering methods gave an opportunity to ask questions, as well as to seek clarity to explain the experiences of deaf learners, educators and their hearing parents based on their experiences of sign language use. The advantages of using a qualitative approach were that as a researcher I was in contact with the participants with the aim to understand their perceptions and experiences, and to attain collective perceptions or views on the same situation, as well as to obtain a detailed description of the phenomenon of deaf children's acquisition and use of sign language. The disadvantages of qualitative research that I have encountered are that the research data collected could not be statistically presented and I had to rely on the qualitative information shared by participants.

1.9   OVERVIEW OF METHODOLOGICAL CHOICES

Sefotho (2018) explains research methodology as a research plan that identifies the methods to be used for a study and outlines the way in which the research is to proceed. Therefore, the type of research design, sampling, data collection and

analysis chosen for the study is further explained below, which aligns with a qualitative research study.

1.9.1 Research design

A descriptive case study design was an appropriate choice for conducting the research in this study, as the design was helpful in facilitating and exploring the phenomenon of sign language use and acquisition. The descriptive case study design proposes the use of various data sources within the context of the study (Baxter & Jack, 2008). Various data sources were used to define the real-life settings and the challenges deaf learners encounter in using sign language (Maree, 2016). In this design, different aspects of the deafness were exposed and explained. Moreover, it provided the researcher with an opportunity to explore the deaf child's context, to organise the research design, and to build a positive relationship with the participants (Baxter & Jack, 2008). The researcher made use of interviews, observations, questionnaires and documents in this study.

1.9.2 Sampling

Purposeful sampling is governed by the selection criteria used and the "purpose" or reasons for which participants are chosen (Maree, 2012). Thus, this sampling strategy was suitable for the study, as the researcher aimed to select deaf learners, their hearing parents and educators who could provide rich information regarding sign language acquisition. Interviews and lesson observations took place in one of the Deaf schools in Gauteng, in the intermediate phase with the Grade 6 deaf learners selected by teachers. The selection criteria for participants in the study on the acquisition of sign language were as follows (Maree, 2016):

- Six deaf learners in Grade 6 in a primary school where sign language is taught with the ability to communicate in SASL. In this study three boys and three girls were selected.
- Six deaf learners with hearing parents. The reason for selecting deaf learners with hearing parents was that sign language acquisition is more problematic for such children. Deaf learners of hearing parents experience different challenges to deaf learners born to deaf parents.

- Two teachers of each participating deaf learner with more than two years' experience in teaching SASL.

The research took place in one school in the Tshwane district. A challenge I encountered based on the purposeful sampling strategy used in this study, were the time alterations needed due to the availability of the selected participants, when the researcher was not available on the time agreed upon, I had to arrange another time for conducting the interview Strategies used to overcome this challenge were to explain and clarify in depth the purpose of the study, the contribution the study and the reason for selecting of the specific participants, and to explain confidentiality and permission to withdraw from the study at any time.

1.9.3   Data collection/generation and documentation

Table 1.1 briefly explains the three data collection methods used, how documentation was done and the purpose of data collection. Maree (2016) explains data collection as strategies used by researchers to obtain information on the research phenomena being studied.

Table 1.1: Data collection strategies

Data collection methods	Documentation	Purpose of data collection
Semi-structured interviews	Voice recordings were made during the interviews with hearing parents, while video recordings were used for deaf learners. Voice or video recordings were used in the interviews with the educators (if the teacher could hear a voice recording was used and if the teacher was deaf a video recording was used). An interpreter was also on hand during the interviews. Permission to record was requested from all the participants.	In-depth interviews were conducted in this study, as they gave the researcher an opportunity to ask the participants semi-structured questions about sign language use and the acquisition thereof (Maree, 2012). Interview allowed the researcher to interact socially with participants (hearing parents, deaf learners and educators) and knowledge was constructed in the process (Creswell & Poth, 2018).
Observation	Checklists were used during the observation of the lessons and field notes were also taken.	As a researcher I was a "complete observer", a researcher becomes an objective participant by looking at the situation from afar (Maree, 2012). Lessons on different subjects using sign language were observed.
Documents	Investigation of South African government policies and reports regarding the teaching of deaf learners.	Creswell (2014) states that documents are regarded as secondary data, therefore during the process of investigation, the researcher may generate qualitative data from documents.

1.9.4　Data analysis and interpretation

I used the following steps for data analysis in the research study, as discussed by Creswell (2014):

Step one (Organise and prepare for data analysis): I organised and prepared for the data analysis by transcribing the interviews electronically; I typed up the notes taken during interviews with the research participants (deaf learners, hearing parents and educators) and scanned the materials used, for example in this instance South African government documents on Deaf Education. I thereafter catalogued and sorted the data into different types of data.

Step two (Reading through the data): I engaged with the data by reading it in-depth. This step provided an opportunity to reflect on the overall data meaning and gave me a general sense of the information content gathered. I thereafter analysed the participants' ideas concerning the use and acquisition of sign language. This step enhanced the credibility of the data. I subsequently wrote up observational field notes, and recorded general opinions about deaf learners. At this stage, the ideas started to take shape.

Step three (Coding data): This step entails organising the information by bracketing chunks (or image segments or text) collected by the researcher on deaf learners, their hearing parents and their educators. This included labelling and categorising using a term related to the language of the participants, in this case sign language. Hearing parents selected as participants in this study used spoken language and therefore both signing with the assistance of an interpreter and spoken language data were analysed.

Step four (A description of the setting): Coding was used to generate a description of the setting or the participants, as well as categories or themes for analysis. The researcher generated information about the participants, where they live and the environment at the school for deaf learners.

Step five (Descriptions and themes): This step refers to how the description and themes of the data were designated in the qualitative narrative. The narrative descriptions were used to convey the findings of the data analysis. The researcher

designed themes and subthemes in order to sort the information gathered after engagement with the participants. In this study, it related to the findings of sign language acquisition delay, and other effects discovered leading to this delay.

Step six (Interpretation): This was the final step in analysing the research data, and interpreting the findings or results. In this phase of the data analysis the researcher asked herself questions related to generating findings or challenges discovered in sign language acquisition and use. This could have been the researcher's personal interpretation and also a comparison with the data and existing theory or literature to confirm or negate the findings.

One advantage of using the data analysis and interpretation stages is that it allowed the researcher and participants to be part of the analysis. I analysed what was generated from participants and arrived at personal conclusions. I was aware of time constraints for coding and identifying. Therefore, appropriate planning was needed and I ensured that I kept within the timeframes of the study.

1.10   VALIDITY AND RELIABILITY

The validity of research instruments is defined as the correspondence between the measurement created and the actual quality or nature of the observed phenomenon. It includes the degree to which the interpretations have a shared meaning for the participants and the researcher (Maree,2012). Creswell (2014) explain reliability as the precision and consistency of data collected in the study. It is mainly related to the validity of the measure. The assurance of reliability in the study was determined by the researcher when data collected, including the outcomes of the interviews, was triangulated during the research process to provide reliable findings for the study.

Creswell (2014) explains validity as the accurate presentation of a specific context or event as described by the researcher; the assurance that the findings obtained will be credible and substantial. Creswell (2018) further explains that the validation of findings occurs throughout the steps in the research process. In addition, validity is critical to research as it concerns itself with whether accurate procedures have been followed in finding responses to research questions (Kumar, 2015).

1.11   ETHICAL CONSIDERATIONS

It is important to consider ethical practices at every stage of the descriptive case study design, starting with planning the design for the proposed research up to the analysis and presentation of the research data. At all stages, no harm should be done to the participants or the research setting (Hamilton & Corbett-Whittier, 2013). The research design and study adhered to all the related legislation and ethical guidelines (Maree, 2016).

The ethical considerations related to this study are discussed using the following guidelines proposed by Zeni (2001):

Permission and gatekeepers. The first step was to submit the proposal to the Ethics Committee at the Faculty of Education at the University of Pretoria. Ethical approval was obtained (EP 19/08/01) (refer to page ii.). The second step was to obtain approval from the Gauteng Department of Basic Education to do research in schools for the Deaf and, thirdly, to attain permission from the principal.

Informed and voluntary consent. I asked the principal, teachers, and parents to sign a consent form, and explained that participation was voluntary and they had the right to withdraw from the study at any time. I also asked the learners to complete an assent letter. I explained the purpose and process of the informed consent and assent letter to all the participants. Additionally, I asked permission to make a DVD recording of the interviews with deaf learners, and permission was granted.

Confidentiality. I explained to the participants in detail how the study was to be conducted and I ensured the confidentiality of the participants during the different phases of the investigation. Pseudonyms were used to protect the participants' identity and to ensure anonymity.

Data storage for 15 years at the Faculty of Education. I asked for permission to store documents, policies, and reports related to Deaf Education and any other document used as a source of information at the Faculty of Education.

1.12 OUTLINE OF THE CHAPTERS

Chapter 1 Introduction and contextualisation
    Introduction
    Initial literature review
    Rationale
    Purpose of the study
    Research questions
    Working assumptions
    Concept clarification
    Paradigmatic choices
    Methodological choices
    Ethical consideration
    Validity and reliability

Chapter 2 Literature review and theoretical framework

Chapter 3 Research design and methodology
    Research paradigms
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    Data analysis
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    Data analysis strategies
    Information regarding the participants
    Discussion of themes
    Findings

Chapter 5 Conclusion
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    Discussion of the research questions
    Limitations of the study
    Implications of the study
    Contribution of the study

1.13 SUMMARY

In this chapter I introduced the study and briefly explained the rationale for conducting it. I also explained the purpose of and the assumptions made about the study. I formulated both a primary and secondary research questions and further discussed the main concepts of the study. The paradigmatic choices and methodological considerations I made were introduced. I also referred to the ethical considerations, and the validity and reliability of the study.

The literature reviewed for this particular research topic is mainly discussed in the following chapter, Chapter 2, in which I explore existing literature based on this field of study. The review focuses on what previous researchers have found in relation to SASL challenges. Lastly, I aimed to elucidate the theoretical framework.

CHAPTER 2

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1   INTRODUCTION

In the previous chapter, the current study was briefly explained. I provided an overview of the study, stated the rationale for and purpose of the study, and discussed the research questions formulated, the theoretical framework, the methodological paradigm and the ethical considerations of the study. due to the limited research conducted on sign language challenges experienced in South Africa The literature review focused on both Southern African and international studies conducted.

In this chapter, I explore existing literature related to the current study. The chapter includes discussions and findings of previous researchers concerning sign language challenges encountered by deaf learners born to hearing parents. It aims to provide a definition of sign language and explore the challenges associated with sign language. The chapter further provides a brief history of Deaf Education and how schools for the Deaf and SASL are implemented in South Africa. Learning and communication using SASL with specifically reference to deaf learners born to hearing parents who are non-native signers and have no experience of sign language are discussed. I conclude the chapter with the theoretical framework implemented in this study.

2.2   A DEFINITION AND DESCRIPTION OF SIGN LANGUAGE

Moeller, Ertmer and Stoel-Gammon (2016) define sign language as a language that expresses and conveys meaning through hand forms, visual-gestural, varied body positions and gestures, and facial expressions. Sign language does not exist in a spoken or written way. In addition, Marschark and Hauser (2008) define sign language as a language that relies heavily on pictorial signals to communicate. These signals represent auditory phonemes to supplement and clarify information gleaned from lip reading and remaining hearing.

British Sign Language (BSL), American Sign Language (ASL), and Australian Sign Language (Auslan) are examples of natural sign languages and non-natural or

formed sign systems that are primarily focused on the processing and development of visual signs. These evolved without any contribution from the contiguous culture's spoken language (Spencer & Marschark, 2010). Signed English and Signed French are two non-natural or shaped sign systems. Spooner (2016) indicates that most learners regard ASL as the easier and simpler language than English since ASL lacks all of the grammatical features of English. Learners experience ASL as a language with reversed words and different word order, as well as an imperfect English that is inadequate on its own. ASL is therefore defined as a distinct language from English.

According to Department of Basic Education (DBE, 2014a), any reference to Home Language should be understood to refer to the language level rather than whether or not it is spoken at home. As a result, SASL is offered in South Africa as a Home Language because it is the language in which deaf learners are most natural. Furthermore, SASL is described by Storbeck and Martin (2010) as a language with grammar, morphology, syntax, and a production style as a full-fledged language in its own right. It is a language that belongs in the same group as other South African languages (Storbeck & Martin, 2010).

Masthrie (2004) explains that SASL is not one of the eleven official languages of South Africa, although it is stated specifically in the Constitution of the Republic of South Africa, and that it must be encouraged and adequate conditions created for its continued development and use. Mann, Roy, and others interpret and understand sign language in a variety of ways. Mann, Roy, and Morgan (2016) emphasise the importance of studying sign languages in the field of language production.

Researchers investigate and raise problems that would otherwise go unnoticed if human languages were restricted solely to verbal communication (Mann, Roy & Morgan, 2016). According to Mann et al. (2016), sign languages have been recognised as a separate language in several countries, including the United States and much of Europe, and a large number of people all over the world are using them. Moores and Miller (2009) further state that SASL has always existed and will continue to exist as long as there are deaf people in South Africa.

Very little research has been conducted on SASL by deaf or hearing linguistic researchers who are native signers (Morgan et al., 2016). SASL has a background in and is influenced by Irish, German and British Sign Language (BSL) as well as ASL.

History indicates that SASL and Deaf Education were developed with the help of the Irish and German Dominicans via the Paget-Gorman scheme, and limited studies have been done relating to SASL specifically by deaf or hearing linguistic researchers who are native signers (Moores, 1987). As a result, several South African teachers were sent to study sign language at Western universities to develop their teaching and learning of SASL. Many of these sign languages are therefore related to one another (Magongwa, 2010). Although the languages vary in terms of morphological structure, syntax and lexical diversity, each remains a distinct language that must be taught and learnt. SASL is therefore a dynamic language that needs to be studied and informed by new developments in order for deaf people to have access to more resources (Druchen, 2010).

2.3   A DEFINITION AND DESCRIPTION OF DEAFNESS

Deafness, according to Bornman and Rose (2010), refers people whose primary sensory input for communication is not the auditory channel. Even with hearing aids, deaf people have little to no ability to hear speech (Bornman & Rose, 2010). Weir and Ayliff (2014) refers deafness as a cultural community that belongs to people using sign language. deaf people see themselves as part of a marginalised group of linguistic and natural users of signed language, which does not have the same legal protection as other natural languages. deaf people oppose being labelled as disabled, and they see themselves as marginalised and disempowered if their sign language needs are not met (Weir & Ayliff, 2014). This is a problem in South Africa, where the majority of deaf people cannot communicate using sign language.

According to DeafSA (2009), in South Africa, deafness is often diagnosed only when a child is between the ages of four and eight. In most cases, a child's language capacity develops during the first two years of life. As a result of the late diagnosis, deaf children enter their first grade at a school for the Deaf with little to no sign language skills.

Marshall et al. (2018) describe deaf culture theory as being based primarily on a common language. A deaf culture is a place where deaf people interact, help one another, connect, and express themselves entirely through sign language. It is a forum that allows deaf people to participate in various events such as worship, education, deaf awareness, and a celebration of their uniqueness (Marshall et al., 2018). Marshall et al. (2018) further explain that certain members of the deaf cultural community claim to belong to a distinct culture because they attend separate (often residential) schools for deaf children and participate holistically in a wholly deaf atmosphere, as well as deaf clubs where they work and socialise using sign language.

Representatives of the National Association of the Deaf (NAD) address the way in which deaf people see themselves, how they embrace being deaf, how they love being deaf, and how they are proud of their deafness. As a result, deaf culturalists have the right to their race, personal diversity, language and culture (NAD, 1880). In the same way that Native Americans and Italians (or blacks) bond together, rather than being corrected and deleted, this is something that should be respected. Finally, deaf people assert their right to silence, which they were born with (NAD, 1880).

As a result, sign language is an important tool for a deaf child's family, as well as the larger community; as a result, sign language and deafness are related, and deaf children face sign language difficulties since they need to use sign language to communicate, express themselves and accept who they are. Consequently, it is critical to identify and explain the two terminologies, namely, sign language and deafness and their relation (Marshall et al.,2018).

2.4   BARRIERS TO SIGN LANGUAGE ACQUISITION

According to Akach, Demey, Matabane, Herreweghe, and Vermeerbergen (2009), SASL seems straightforward on the surface, but implementation is far from straightforward. deaf children are born to deaf parents in a small percentage of the population, and they are introduced to sign language at home (Akach et al., 2009). When a deaf child is born to deaf parents, sign language learning is rarely a normal outcome. According to (Morgan & Woll, 2002 & Rathmann, 2007), children born to deaf parents acquire sign language and improve communication skills faster than children born to hearing parents. Because of the high percentage of children born to

hearing parents and the potential for sign language learning to be delayed, it is critical to develop time for sign language process, and learn about the difficulties involved in learning sign language.

2.4.1 The effect of early and late age diagnosis on deaf children

Early diagnosis of and interventions for deaf children have a positive effect on learning sign language at an early age. The earlier the intervention and immediate support provided to the child the better. Early support unfortunately does not happen in most cases (Isaacson, 2000). Isaacson (2000) states that the early onset of deafness is frustrating for the child and has a profoundly negative impact on the development of spoken language skills development. Spencer and Marschark (2010) support the notion that deaf children who have been identified early are more likely to receive early intervention, and it has been found to indicate better language development.

Further research conducted by Spencer and Marschark (2010) has indicated that twelve-month-old deaf babies were significantly less mature than twelve- months-old hearing babies, regardless of the immediate identification of deafness after birth and the use of hearing aids. The results thus indicated an opposite relation to early age identification of deafness and to other levels of functioning. Ramirez, Lieberman, and Mayberry (2013) argue that early language acquisition enhances word learning and that it simply reflects the developmental cognitive maturity of the child, thus indicating that the course of initial language acquisition is rather directed by the child's upbringing and familiarity with the language.

Therefore, these different arguments about sign language development make the hypotheses difficult to arbitrate, since language acquisition simulation in all hearing and deaf children commences at birth and transpires continuously as the brain matures and cognitive development occurs. Ramirez et al. (2013) indicate that sign language acquisition is delayed for most (more than 90%) deaf children when they are born to hearing families (Ramirez et al., 2013).

The South African healthcare screening services offered in public and private hospitals were surveyed by (Le Roux & Vinck, 2015). According to this study, less than 10% of the one million babies born each year have their hearing tested, which

implies that a child born deaf could very likely miss out on necessary early auditory stimulation. When the survey was conducted in 2008, about 85% of the South African population had access to fewer than 7.5% of hospitals that provided any infant hearing screening facility. A marginally better disparity was provided by private hospitals, of which 53% had units providing universal newborn screening. As a result, the average age of deaf diagnosis in South Africa has been estimated to be between 23 and 44 months, as compared to the recommended three months. Therefore, it can be concluded that according to the survey done by Le Roux and Vinck (2015), deaf children in South Africa are mostly diagnosed as deaf at a late stage which could have negative and disadvantageous consequences for the acquisition of sign language at a later age (Le Roux & Vinck, 2015).

Sign language acquisition at an early stage is possible, as indicated by Bonvillian, Orlansky, and Novack (2019). They reported that most children who are introduced to sign language (earlier than would be anticipated for hearing a child's first word), learn sign language words more quickly than spoken words. In their study it was found that during an observation of the deaf mother–child relationship (the observed 18-month-old children were participants in a longitudinal study of deaf mother–child interaction) four children, two deaf and two hearing, were introduced to sign language, and it was discovered that all four children learnt to sign before learning to speak (Bonvillian et al., 2019).

One of the deaf children, who had a deaf mother and a hearing father, began signing at the age of seven months, while another deaf child gained over 85 signs at the age of 13 months. The hearing boy learnt ten vocabulary signs at the age of 13 months and 50 signs at the age of 15 months. Furthermore, while the above findings led to support for early sign language acquisition, the evidence from the research conducted was too small to conclude that sign language is initially more easily acquired than spoken words (Bonvillian et al., 2019).

Ramirez et al. (2013) discovered that newborns exposed to sign language from birth developed manual babbling at six to 12 months, which corresponds to the age of initiation of vocal babbling in hearing newborns. Hearing newborns produce their first words around the age of ten months (Druchen, 2010). In the case of 11 children who were introduced to sign language directly after they were born, during the first 30

months of life some early signed vocabularies were acquired and developed at a rate comparable to early spoken vocabularies. deaf children born to hearing parents are typically exposed to sign language at a later age, depending on a variety of factors such as education, culture and others that are not biological (Ramirez et al., 2013).

As a result of the various approaches and investigations into language processing, researchers have concluded that at least some of the principles driving language acquisition are age-independent and vary from child to child (Moeller, 2016). There is no single age of early sign language acquisition indicated for deaf children. According to Spencer and Marschark (2010), six months of age does not always appear as critical for the positive effects of early intervention for deaf children. Some findings have shown that children who were diagnosed and received intervention at up to one year of age performed higher than children diagnosed later, and deaf children who obtained interventions before the age of 11 months learnt sign language substantially better than those who received later assistance from intervention services (Spencer & Marschark, 2010).

The diagnosis of deafness may put a strain on the relationship between hearing parents and their deaf children (Gregory, Knight, McCracken, Powers, & Watson, 1998). However, the points made by Ramirez et al. (2013) and Bonvillian et al. (2019) are contradictory. With so many possible results, it is thus difficult to indicate when a deaf child is ready to learn sign language. Accordingly, more current research is needed.

2.4.2 Hearing parents of deaf learners who are non-native signers

Non-native signers (parents who use sign language as their main communication method and did not learn it at birth) play an important role in raising children and instilling culture and language development at home (De Clerck & Paul, 2016). However, once the child has been diagnosed with a special need, some circumstances in the child's upbringing change according to the needs of the child as an individual (Le Roux, 2019). Raising a deaf child is a difficult task for hearing parents; one of the reasons for this difficulty being communication breakdowns caused by the fact that the language spoken at home varies from the language

spoken by the deaf child, which could result in a sign language barrier (De Clerck & Paul, 2016).

Stegman (2016) explains how parents eagerly wait for their unborn baby's arrival, and have plans and dreams for the future of their child. Most parents dream of having a perfect baby with normal physical functioning, therefore when the child has been diagnosed as being deaf, all the perfect dreams of parents about their child are shattered.

As a result, hearing parents of deaf children enter the unfamiliar world of deafness, mostly having little or no prior contact with deaf people, and their lives been taken over by a new reality (Stegman, 2016). Raising a deaf child can be experienced as an uphill battle filled with confusion, effort and exhaustion (Lu, Jones, & Morgan, 2016). Furthermore, Batamula (2016) notes that a family's view of normalcy and disability could hinder their beliefs about deafness and how they react when faced with the disability. Some families experience stigmatisation when a child is diagnosed as being deaf, and hearing parents of deaf children may struggle with the attitudes of their families and their communities toward their deaf children (Jenny et al., 2016).

According to Brinkley (2011), only a small percentage of deaf children are born to deaf parents, with the majority of deaf babies being born to hearing parents who are non-native signers who use spoken language. Hence, a deaf child who needs to learn sign language at home is in many instances denied access to it at a young age due to their hearing parents' inability to communicate in sign language (Flaherty, 2015).

Hearing parents subsequently use direct conversation with their children instead of using sign language, which could cause frustration for the deaf child (Brinkley, 2011). By contrast, Le Roux (2019) elucidates the difficulties faced by parents, especially mothers, since they are the ones who, in most cases, face the child's needs daily, who provide care, and who have to learn to use sign language at the same time as the deaf child.

According to Storbeck (2012), 90% of deaf children are born to hearing families and communities who do not understand sign language. For example, Humphries,

Kushalnagar, Mathur, Napoli, Rathmann, and Smith (2019) found that 96% of deaf children are born to hearing parents who are unprepared to raise a deaf child. As a result, in the home where the deaf child is raised deaf culture is not personified (Marschark & Hauser, 2012). Hearing parents also spend the first few years of a child's life attempting to comprehend and figure out what it means culturally and physically to be deaf (Szarkowski & Brice, 2016).

Hearing parents who are non-native signers could have a detrimental effect on deafness, according to Moeller et al. (2016), and this has an impact on the child's normal process of acquiring sign language. Hearing children master a language by hearing it often at home (Bjorn, 2009). As a result, the issues experienced by a deaf child growing up in a hearing family persist when an infant does not have full access to the family's spoken language, and has minimal or no access to sign language. Developing sign language is thus a difficult task for a deaf child growing up in a hearing family. Even the most basic of language processes, such as mutual attention, which is critical for sign language learning, have an impact on the deaf child (Jenny et al., 2016). Hearing parents often require help from skilled and well-trained early intervention professionals to maximise deaf children's access to sign language in the first months and years of life (Moeller et al., 2016).

Several contextual factors, specifically where the family is located, have an impact on hearing parents' attainment of early intervention assistance. Families in rural areas are mostly excluded from such assistance and action. Consequently, ongoing research is needed to accelerate the progress and advancement of deaf children's sign language acquisition (Drouin, 2020).

2.4.3 Hearing parents using spoken language and sign language with deaf children

Hearing parents are generally fluent in and understand spoken language since they learnt it from birth (Aarons & Morgan, 2003). Thus, if hearing parents have a deaf child, they have to learn sign language to interact with their deaf children, usually learn sign language at the same time as their deaf child (Woll, 2013). However, hearing parents cannot fully avoid using spoken language with their deaf children unless the parent is fluent in sign language, which in most cases is not the case (Roman, 2018).

When a hearing parent and a deaf child speak, the mother may use the family's spoken language to try to convey a message or communicate with the child. However, this not only prevents the deaf child from learning sign language, but also causes uncertainty in the process of learning sign language (Aarons & Morgan, 2003).

Woll (2018) further explains that hearing parents' comments on sign language indicate that they regard it as not being a perfect communication method for their deaf children, thus this attitude negatively affects the use of sign language by deaf children. Since both spoken languages and sign languages can deliver more than one piece of information at a time, learning a new language is a difficult process that takes time and effort (Roman, 2018).

Fitzpatrick, Stevens, Garritty, and Moher (2013) state that some hearing parents are uncomfortable switching to their deaf children's primary mode of communication (sign language); instead, they tend to use other approaches such as having an assistive device for their child and the use of total communication, depending on the child's needs and abilities.

Lopez (2014) claims that most deaf children of hearing parents do not have or lack linguistic input at home. Hearing parents can use a variety of manually coded English types or combine ASL with English. Hearing parents can teach their deaf child a combination of spoken and sign language, but this can be unhelpful for the learning of sign language (Lopez, 2014).

2.4.4   Social interaction and environmental effect in acquiring sign language

According to Vygotsky's sociocultural perspective, social interaction and the community have a significant impact on language learning. Deaf children, on the other hand, are marginalised and excluded as a result of growing up in a hearing culture that interacts using spoken language, and they often encounter a language barrier when attempting to connect and engage with the hearing community members because of the language variation (Montero, Fernyhough, & Wisler, 2009). Owing to a lack of sign language literacy and comprehension, the hearing community is unable to fully accommodate deaf children. Instead, they often experience deafness as a handicap, hence deaf children are immediately excluded.

Making friends is also difficult since children interact as they play together and communicate using spoken language, which can make a deaf child feel marginalised and discriminated against (Montero et al., 2009).

According to Brinkley (2011), life for deaf children would have been simpler if it were available in British Sign Language (BSL). However, this is an unrealistic expectation, as society has shown that it cannot afford to featherbed such a tiny minority. As a result, deaf learners are taught sign language, and they should be expected to communicate in sign language during their early school years, and to use sign language to communicate. deaf learners are not exposed to sign language in the same way as hearing children are exposed to spoken language in their homes and in the community, where Deaf learners will regularly participate in sign language or media such as television (very few shows with sign language), radio, and music (Brinkley, 2011).

Deaf learners are generally excluded from the media because television does not have interpreters for all programmes transmitted. A small number of deaf singers or musicians exist around the world, but they are not as well-known as hearing artists. While the media affects language acquisition for most children, deaf children are left out (Brinkley, 2011).

Meanwhile, according to Marschark and Hauser (2012), most young children's experience comes from experimentation as well as from actually playing and engaging with the environment, learning how things are and how they function and trying them out in a real-life situation. The majority of a child's information comes from other people, who provide the child with knowledge, new things and new ways of interacting with others (Marschark & Hauser, 2012). In this context, family and friends are the most important contributors to a deaf child's sign language learning and play an important part in a child's growth and learning of group laws, responsibilities, attitudes, and values. As a result, before puberty, deaf children are largely segregated in their language learning (Marschark & Hauser, 2012).

2.5   DEAF EDUCATION

2.5.1   Deaf education in South Africa

The pre-and post-apartheid periods had a profound influence on how education was applied and adopted in South Africa. As a result, studying history is essential to gain a thorough understanding of how South Africa arrived at its present state of Deaf Education. Moores (1987) addresses the significant improvements in deaf education that have occurred in the last century, more than in any other comparable time in history. Despite this improvement, deaf people continue to face significant obstacles in their daily lives.

Furthermore, academic success lags behind expectations, and a large number of deaf children and adults struggle to learn spoken and written language. Hence, the hearing public's misunderstanding of the ramifications of deafness continues to be a barrier to Deaf Education accomplishments, and there is still a disparity between deaf and hearing children due to concerns expressed about deaf children. There is also a division between hearing and deaf learners (Moores, 1987). The following section examines the way in which sign language was brought to South Africa.

2.5.1.1 History and implementation of Deaf Education, schools and SASL in South Africa

Storbeck and Martin (2010) and Druchen (2010) briefly explain the history and background of Deaf Education and how schools and sign language for the Deaf were introduced in South Africa.

Several missionaries came to South Africa during the colonial era because of the civil unrest. In the 1860s, the missionary-minded technique method entered the South African deaf population, resulting in the creation of the Irish Dominican Order, an order of Catholic nuns. Later, the Dutch Reformed Church took its place. The Dominican Grimley Institute for the Deaf, founded by the Irish Dominican Order led by Thomas Grimley in Cape Town in 1863, was the first established school for the Deaf in South Africa. Since it was the only school for deaf students at the time, it drew students of all races. The school's medium of instruction was sign language. In the second half of the nineteenth century, worship services were translated for all deaf members of the church and were organised using Irish signs and the Irish one-handed alphabet.

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The German Dominican sisters opened a second school for the Deaf, bringing German signs and the two-handed European alphabet with them. The oral approach to educating deaf students was adopted, resulting in the South African modality controversy. Consequently, in the aftermath of the Milan Congress vote, 1880 was a landmark year in Deaf Education, with oralism being the officially recognised system of education. A few years later, this decision affected South African schools. More educators mastered oral techniques and sign language became an official language of communication in general and in education for deaf students. Following that, in 1884, German Dominican nuns established a school for the Deaf in King William's Town, Eastern Cape province, that followed a strict oralist policy, with these schools being established for European deaf children only. The Dutch Reformed Church opened another school in the Cape region for deaf coloured learners; this was named Nuwe Hoop. This school used a combination of manual and oral approaches.

As a result, schools for people of various races were founded, with the first black school, Kutlwanong, opening in Gauteng province in 1941. The school used the Paget-Gorman system, which is a coded version of the English sign system that uses 37 simple hand signals and 21 distinct hand postures. The school was founded on a communication code that encouraged rather than suppressed a vibrant deaf culture. In 1948, when the National Party came to power, there was a greater disintegration of deaf communities along racial lines. Additional schools for African deaf children were established throughout the country, divided according to ethnic groups' spoken languages, in accordance with the Bantustan (Black enclave) separate development policy (Magongwa, 2010).

The Kutlwanong school moved to Rustenburg to help Setswana, South Sotho and Sepedi speakers, and in Transkei, the Efata school was founded for isiXhosa speakers. The St Thomas School was founded in King William's Town, Thaba 'Nchu Bartimea School was established for Tswana and South Sotho speakers, Vuleka School was established for Zulu speakers in Nkandla, and Shayandima Tshilidzini School was established for Venda and Tsonga speakers in Shayandima. The Witsieshoek Thiboloha school was founded in the Eastern Free State in Phuthadijhaba, the Dominican School at Hammanskraal was established for Sotho

speakers, and two schools for urban black deaf children were established in Soweto and Katlehong (Parkin, 2010).

Segregation in deaf schools by racial group led to a further retreat to oralism in white schools. When opposed to other racial groups, white schools were seen as being more advanced. The visual techniques used by white schools improved their sign language development and strengthened their status as deaf community members. Furthermore, the white schools benefited from segregation, which made their educational offerings superior to those focusing on underprivileged black deaf learners.

The establishment of and access to schools for deaf learners in South Africa continued and the country currently has 47 schools, components and classrooms that cater for deaf learners (Storbeck & Martin, 2010).

Clerk and Paul (2016) argue that there is no long-term continuity in Deaf Education and that less attention is paid to deaf children's emotional and social well-being, as well as their academic growth. deaf children have to learn to work in a primarily hearing environment, but this does not imply that they must be ignorant. They are visually focused and have a simple need for a sign language environment to contribute to their needs. In addition, the Salamanca Statement, which is discussed in the following section, has played a vital role in the development, improvement and addressing of issues related to Deaf Education in South Africa.

2.5.1.2 The Salamanca Statement

The most recent improvements stem from the human rights movement of the 1960s in relation to Deaf Education, which had an immense impact on how special needs learners were managed and thus educated, as well as deaf learners' education and perspectives. The Salamanca statement, issued in 1994, had an impact on the education of students with special needs and included deaf students. This was one of many reforms brought about by the human rights movement (Ainscow, Slee, & Best, 2019).

In June 1994, delegates from 92 countries and 25 international organisations gathered in Salamanca, Spain, for the World Conference on Special Needs

Education. All parties agreed that a bold new statement was required to fully integrate all learners with disabilities into regular classes (Ainscow et al., 2019).

As a result, 94 countries and over 20 non-governmental organisations signed the Salamanca Statement of the UNESCO World Conference on Special Needs Education Access and Quality (June 1994). This statement asserts that inclusion is a universal right that leads to a more inclusive society, and it lays out guidelines for including all students with special educational needs in regular classrooms alongside their able peers, regardless of physical, intellectual, social, emotional, linguistic, or other disabilities (UNESCO, 1994).

2.5.1.3 The inclusive role of language in deaf learners' education

According to Baldauf and Kaplan (2004), language has been a weapon in the country's evolution from colonialism to apartheid to democracy, and it tackles, diachronically and synchronically, as the issues of language preservation and change. In several African societies, languages are surrounded or nested in concentric circles, with a speaker's mother-tongue language, which is a language spoken at home and by a small community, differing from the signing language community. When deaf learners of hearing parents want to learn sign language, they sometimes find that the minority language is not printed, is not used at school, and is not even used by the family next door (Zsiga, Boyer, & Kramer, 2014).

The language of teaching and learning, as discussed by Glaser and Pletzen (2012), is the most important contributing factor to the lack of literacy acquisition in deaf learners. In the majority of schools for deaf learners, literacy was historically presented in the language that was spoken, i.e. a preference was shown for the spoken French language rather than sign language in France. During the apartheid period, schools for deaf learners concentrated more on developing lip-reading skills and speech rather than teaching sign language programmes that were relevant to their sensory abilities (Mathews, 2017). Because of this widespread practice, deaf learners were unable to access material in some parts of the curriculum (Glaser & Pletzen, 2012). According to a growing body of research and practice, one way to introduce deaf learners to the visual content of sign language is to teach and learn sign language as their primary language of learning and communication. As a result, unlike teaching deaf learners lip-reading skills and voice, teaching sign language as

the primary language of instruction and learning allows for a proper language system through which content knowledge, numeracy, history, or science can be absorbed (Mathews, 2017). However, since sign language does not have a written form, deaf learners who are taught in sign language encounter difficulties learning to write and read in non-signed languages (Swanwick, 2017).

For deaf learners to learn and improve text literacy skills, they must subsequently learn another language. Learning to read and write is unavoidable for them, and it is a matter of being bilingual (De Clerck & Paul, 2016). Although, deaf people in South Africa use SASL (DeafSA, 2009), English is placed as the primary language of teaching and learning in South Africa, as it is in many other multilingual countries (DBE, 2014a).

Hence, deaf learners can learn SASL as their home language of communication while attending school, even though English is the primary language of learning and teaching. Deaf learners may come from hearing families, but they must learn at least three languages simultaneously because Deaf Education necessitates a separate language structure (Magongwa, 2010). One approach is to use a natural signed language (e.g. SASL) as the primary language of instruction and learning and to use it as a scaffold for the teaching of a second written language. A bilingual-bicultural philosophy is an approach to promoting literacy in the deaf community. This method is well-documented in the classrooms of younger deaf learners (Mathews, 2017). Deaf learners thus have an additional barrier to learning as they have to be bilingual or in some instances multilingual at a very young age to ensure that they are able to communicate using signed, spoken and written language skills.

2.5.1.4 The bilingual approach

Wang (2015) defines the bilingual approach as a way of enabling access to two languages. In approaching education for deaf children from a bilingual perspective, all deaf children must have access to both signed and spoken language while the language is being created so that all aspects of language acquisition are addressed. Sign bilingualism is a paradigm that is perceived to be inclusive of the demands of all deaf children since it encourages them to use sign language in conjunction with any spoken language (Wang, 2015).

Glaser and Pletzen (2012) further clarify that one of the ways to conduct language teaching for deaf learners is to use a bilingual approach in literacy education. This is primarily focused on the linguistic interdependence principle, which asserts that reciprocal fundamental proficiency across languages enables positive transfer from a first to a second language provided the child is exposed to and encouraged to acquire the second language (Knight & Swanwick, 2002).

Sign bilingualism, as described by Curriculum Assessment Policy Statement (CAPS) (DBE, 2014a) and supported by the DBE, is the use of two languages in various modalities, including signed and spoken or written language, which differs from Deaf Education, which uses two spoken languages. Furthermore, sign bilingualism uses the deaf community's signed language, with the written/spoken language being in one or more of South Africa's indigenous languages, while the learning of signed language is prioritised. In addition, there is an equally strong emphasis on teaching reading and writing in the second language, which is presented using signed language to describe the syntax and abstract concepts (DBE, 2014a).

Wang (2015) furthermore explains that sign bilingualism lacks a common modality since the basic form of each language differs (speech and sign). As a result, learning a spoken language in addition to sign language necessitates communicating with a novel modality. It is uncommon for a bilingual child to be equally fluent in both languages; in most cases the child knows one language better than the other depending on the situation (Wang, 2015).

The bilingual model argues that if deaf learners achieve high levels of literacy, they will be able to make an optimistic transition to learning a second language, which will include learning text literacy skills, if they have high levels of competence in both Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP) in their first language, which is a natural signed language (Knight & Swanwick, 2002). The goal of sign bilingualism is to enable deaf children to become bilingual and bicultural, allowing them to fully participate in both the hearing and the deaf worlds, rather than limiting their linguistic growth, social interaction, and educational performance, so linguistic pluralism is encouraged (DBE, 2014b).

CALP in a signed language will assist in the development of text literacy skills in a chosen second language (Glaser & Pletzen, 2012). It is argued that this will apply even if the deaf language learner's background is peculiar in certain ways, in that the first and second languages are not created in the same mode, signed languages do not have a written form, and deaf people do not yet have ready access to a spoken form of the second language (Bauman, Murray, & Skutnabbkangas, 2014). Although different techniques have been introduced and are successful for some deaf learners, the issue of sign language continues to be a problem. For continuous development in the use of sign language by Deaf Education, sign language problems must be identified, investigated and addressed, which is where this study comes in with its aim to contribute to such significant research (Bauman et al., 2014).

2.5.1.5 Policy changes in language, education and disability post-apartheid

Since 1994, the democratic government of South Africa has faced the challenge of providing quality education for the country's multicultural, multilingual population. At the time, SASL was not one of the country's eleven official languages, but was listed primarily for promotion and growth. SASL was also designated as an official language for deaf learners in public schools (Glaser & Pletzen, 2012). In 2018, a study on SASL was released, suggesting that the language has been officially recognised as a home language (Umalusi, 2018).

Glaser and Pletzen (2012) provide a brief overview of the South African Constitution (RSA, 1996) and relevant legislation, such as the Integrated National Disability Strategy, which has become one of the proactive strategies to enable disabled learners to gain access to opportunities and participation in education. Given the lack of separate education provision for deaf learners after Grade 9, the planning to include them in mainstream classrooms using a sign language interpreter provides a crucial potential channel for developing South Africa's progressive education policy on education for people with disabilities. It is important to clarify that such educational interventions will meet the needs of all students equally and concentrate on the literacy activities that take place in an inclusive classroom (Glaser & Pletzen, 2012).

Mathews (2017), like Glaser and Pletzen (2012), stated that during the nineteenth century deaf learners in the United States attended public or mainstream schools. As

a result of the origins of the mainstreaming movement in other civil rights movements of the 1960s and 1970s, attention was focused on issues of equality, such as human rights issues, and individual diversity. To this end, the history of SASL is closely entangled with the history of apartheid education and its complex language policies. The history of deaf people in South Africa before colonisation is therefore poorly understood (Monaghan, Schmaling, Nakamura, & Turner, 2003).

2.5.1.6 The sign language learning approach and fingerspelling

According to Leigh and Andrews (2017), sign language is easier to learn for all deaf learners because its syntax and lexicon are visible. As a result, deaf children with deaf parents are usually taught English as a second language in the home, either concurrently with ASL or sequentially. Book reading, on the other hand, is a popular English teaching technique in which parents use books to help their children translate stories by pointing out a sign to print connections and matching fingerspelling to print (Leigh & Andrews, 2017).

However, owing to a lack of sign language adult and peer models in the household, learning a language, both sign language and English, is more difficult for deaf children born to hearing families. Deaf learners' first finger spelt word is usually their name (Moores & Martin, 2006). The child learns to fingerspell words as complete units, then relearns them while learning to read and spell words by matching the fingerspelling handshape to the English text. Fingerspelling is a part of adult deaf conversation, so children who come into contact with such adults can more easily acquire the skill (Swanwick, 2017).

2.6 INTERNATIONAL AND NATIONAL SIGN LANGUAGE LEGISLATION

Any enacted supranational, state or regional legislation or policy that recognises, mentions or relates to sign language and the deaf community is known as sign language legislation (De Clerk & Paul, 2016). Legislation is necessary to overcome environmental obstacles, such as attitudinal and social barriers, and/or to allow full and equal enjoyment of all human rights and fundamental freedoms, as well as full and equal participation in the society of a specific group such as the deaf community (De Clerk & Paul, 2016). In the following paragraphs the development of sign language and related disability legislation in Europe, America and Ireland is

discussed as examples of international language legislation. Sign language legislation in Zimbabwe, Zambia and Egypt is also briefly discussed as examples of African sign language and disability legislation, and lastly South Africa's national language legislation is discussed.

2.6.1 International sign language and disability legislation

It is important to review and learn from other countries' development in relation to sign language policies and legislation. Scheetz (2012) briefly discusses how educational reform has undergone a remarkable metamorphosis since the 1960s, producing a keen sense of awareness within the public sector. This change has drawn attention to the equality of the curriculum, teachers, mastery of their subject matter, and their knowledge of related pedagogy. Hence, discussing and reviewing disability Acts internationally and in other African countries is of significance in order to compare with what occurs and being practised in South Africa currently.

2.6.1.1 European sign language development policy

European sign language was influenced by different sign languages on that continent such as French Sign Language (FSL), which was also one of the earliest sign languages to be adopted in Europe (Kortmann & Der Auwera, 2011). It has further influenced other sign languages such as ASL, ISL, Russian Sign Language and many more. Despite a shared history of suppression since the 1880s, European signed languages have survived and evolved. Signed languages are minority languages in the territories in which they exist (Rose & Conama, 2018). Regional signed languages exist as well; for example, in Spain, Catalan Sign Language and Spanish Sign Language coexist. Many countries embraced French techniques for Deaf Education in the 17th century, resulting in parts of old French Sign Language influencing local signed languages (Kortmann & Der Auwera, 2011).

Tervoor's research work on the signing of deaf children in the Netherlands and Stokoe's analysis of the grammatical structure of ASL paved the way for modern sign languages (Kortmanna & Auwera, 2011). Several European linguists began studying their native signed languages separately in the 1970s, this being frequently assumed to have developed as a result of ASL (Rose & Conama, 2018). Language policy is a rarely discussed issue in the European Union and few coordinated attempts have

been made. The issue of language policy is not well known, with the majority being hidden rather than out in the open (Rose & Conama, 2018).

Lastly, the subject of languages has been the great nonentity of European integration, writes the editor of an issue of the *International Political Science Review* devoted to an Emergent World Language System (Kortmann & Der Auwera, 2011).

2.6.1.2 The Americans with Disabilities Act (ADA)

By 1990, additional legislation focusing on people with disabilities had come to the forefront. The Americans with Disabilities Act (ADA) public law was designed to protect those with disabilities against discrimination in the private sector. It was written to ensure that this group of individuals would be provided with equal opportunities for employment, public services, accommodation and telecommunications and all other relevant services. This Act aims to ensure that disabilities do not hinder those living with them in terms of learning, and that different disabilities and learning barriers are accommodated (Scheetz, 2012).

2.6.1.3 IDEA and NCLB Act implementation and amendments in America

According to Mathews (2017), the mainstreaming movement has been endorsed by a slew of national and international declarations, guidelines and legislation since the 1970s. As a result, in 1975, the All Handicapped Children Act, later known as the Individuals with Disabilities Education Act (IDEA) of 1990, was promulgated in the United States, This Act established two key principles: that all children had the right to free and adequate public education, and that this education would be provided promptly, in support of this legislation by (Leigh & Andrews, 2017).

The lack of focus on the continuity of placements in these laws confused the deaf community (Leigh & Andrews, 2017). The laws were interpreted to require all deaf learners to sit in classrooms with non-deaf learners, as this was deemed the least restrictive environment, with little to no regard about how linguistically open this environment was for deaf learners. This environment resulted being even more restrictive because leaders believed that many deaf children needed to learn the language; however, the need for socialisation with deaf peers and adult deaf role models was not being met (Mathews, 2017).

Cawthon (2011) further states that the NCLB of 2001 has been extremely beneficial in the United States for over a decade. In addition, the No Child Left Behind Act of 2002 (NCLB, Public Law 107-10) was enacted at the forefront of American education and was dubbed by Republicans and Democrats as "the most significant reform in federal education policy in three decades" (Scheetz, 2012).

2.6.1.4 National Council for special education in Ireland

One of the policies that was implemented in Ireland involved improving the use of Irish Sign Language (ISL). However, providing access to ISL in mainstream schools is still challenging. The system at present does not allow for the employment of ISL–English interpreters or communication support workers for deaf children using ISL, access can be made available through the provision of a Support Needs Assessment (SNA) (Leigh & Andrews, 2017). As a result, those providing access to ISL in mainstream classrooms may often be in the early stages of acquiring the language themselves, although little is known about this provision in Ireland at present (Leigh & Andrews, 2017).

2.6.1.5 Bill of Rights for Deaf Children

The Deaf Child's Bill of Rights (DCBR), which addresses the needs of deaf children, has been ratified by 15 US states such as Washington, Indiana, New York, California, Hawaii, Montana, New Jersey, New Mexico, South Carolina, Virginia, Texas, South Dakota, Maryland, Arizona, and Michigan. The quality of each state's DCBR varies, but the fundamentals remain the same (Leigh & Andrews, 2017). Each of these fundamentals focuses on communication as a fundamental human right for every child, the availability of the same language among peers of the same age, and a high degree of ability to communicate in a foreign language. One of the most critical criteria is that qualified workers who can communicate directly with deaf learners be available, that deaf children have the opportunity to connect with deaf adults as role models, and that deaf children have equal access to all school services and programmes (Leigh & Andrews, 2017).

2.6.1.6 Sign language and disability legislation in Africa

According to Marschark, Lampropoulou, and Skordilis (2016), the field of Deaf Education has long focused on attitudes and values rather than validation or educational performance. In Zimbabwe, there is regular conversation about the

availability of education for disabled people from early childhood to secondary education, with a focus on deaf learners. Hence, it is important to look at a few initiatives that have had a positive effect on the improvement of sign language, as well as the teaching and learning of deaf learners in Africa. Zimbabwe, Zambia and Egypt are discussed here (Chataika, 2019).

In the meanwhile, despite policy changes in the area of Deaf Education in Zambia, various protocols could still be implemented, while reform and growth are ongoing (Chataika, 2019). After the amended constitution of 1996, the rights of disabled people in Zambia were incorporated in a variety of laws and policies (Republic of Zambia, 1996). Currently, there are many regulations and legislation that have a positive effect on disabled persons in Zambia, The Persons with Disabilities Act is the most important Act affecting disabled people and impacting education (Republic of Zambia, 2012). This Act has thus had a direct influence on deaf learners and their rights to education.

Additionally, the Convention on the Rights of the Child (1989) was the first human rights legal instrument in Zimbabwe to explicitly mention disability, focusing exclusively on the rights and needs of children with disabilities (Chataika, 2019). The African Charter on the Rights and Welfare of the Child (1990), which includes papers on the Rights of Persons with Disabilities, gives guidelines for tackling discrimination. It then suggests how children with disabilities should have their right to full participation recognised in schools, families, households, healthcare facilities and recreational activities, as well as all other aspects of life. Nonetheless, in some of the countries, the government has paid no attention to or invested in the early years of a child's life (Chataika, 2019).

Egypt is a country with a long history of the colonial language policies as seen and informed by a unproblematised European and colonial conceptualisation (Bassiouney, 2014). This reflects a manner of thinking about language in colonial circles that was unchallenged and accepted as common sense (Bassiouney, 2014). More specifically, colonial language regulations are underpinned by a specific language ideology. Egyptian Sign Language is not officially recognised by the Egyptian government and is linguistically related to other Arab sign languages such

as Jordanian Sign Language, Palestinian Sign Language, and Libyan Sign Language (Van Eyken, 2018).

Central to the language planning endeavours of the colonial regime were a number of concepts, such as language, dialect, vernacular, indigenous, native, nation, literature, and so on, which were used as instruments for the management of cultural and linguistic diversity (Van Eyken, 2018). The way in which the government's language policies were articulated using these concepts – in, for example, official documents produced – reflects various underlying assumptions and common sensibilities, which the colonial officials and their affiliates seem to have shared. The existence of this ideological framework in colonial thinking about language is not just a neutral characteristic of colonial language policies to be acknowledged; it had profound implications for its implementation, and had lasting ramifications for postcolonial language policies (Bassiouney, 2014).

In Egypt, language and ethnicity are assumed to belong to the realm of nature, while in reality belonging to the realm of culture. This vision of language and ethnic categories as handed down by nature is taken for granted as common-sense, thus obscuring the underlying reality that the terms being used (to denote different linguistic resources) were in themselves one specific manner of creating and inventing languages. Thus far there has been little improvement and development in language in Egypt, especially with regard to sign language as it is not officially recognised, nor has its future growth and improvement been discussed (Van Eyken, 2018).

2.6.2   National sign language and disability legislation in South Africa

2.6.2.1 The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)

This policy is the first as the Cabinet ratified the Convention on the Rights of Persons with Disabilities (2007). which stated under Article 24 that no learners can be rejected because of their disability (UN, 2007). It also establishes guidelines on how fair accommodations should be made in a fully inclusive education system to ensure that every child with a disability has equitable access to an inclusive, high-quality, and free primary and secondary education in their communities (UN, 2007).

The UNCRPD policy also recognises the importance of providing meaningful, individual support in environments that promote academic and social growth, to achieve full inclusion (UN, 2007).

2.6.2.2 Screening, Identification, Assessment and Support (SIAS)

One of the policies introduced in South Africa to increase access to quality education for vulnerable learners, such as those in ordinary and special schools who face learning barriers, is the SIAS policy. Language barriers, disruption, impairment, learning disabilities, poverty, and other factors may all be barriers according to this policy (DBE, 2014b). The policy's key goal is to coordinate and promote teaching and learning processes for learners who face obstacles due to disability or other related barriers. It also seeks to support teachers, administrators, districts and parents in schools by providing specific guidance on enrolling learners in special schools, including the role played by all relevant stakeholders (DBE, 2014b).

The SIAS policy is also closely associated with the Integrated School Health Policy to create a seamless framework of early detection and successful intervention to prevent learning breakdown and possible dropout (DBE, 2014b). It also governs the activities and composition of the main coordinating structures required to adopt an inclusive education system (DBE, 2014b). The Integrated School Health Policy (2012) was developed in a legislative, policy and programme environment that is in the process of undergoing significant change. The goal is to have a reviewed school health policy that encompasses the improvement of learner coverage, quality and the inter-sectoral delivery of a school health programme that will contribute to for the optimal development of school-aged children. This policy has been widely distributed for comments and inputs within both the health and the education sectors.

In addition, the strategy aims to improve educational outcomes such as access to schools, retention in school and achievement at school by improving environmental conditions in schools and addressing health impediments to learning (Integrated School Health Policy, 2012).

2.6.2.3 South African Sign Language recognised as Language of Learning and Teaching (LOLT)

According to a study on SASL published by Umalusi (2018), SASL is an examinable subject and sign language has been officially recognised as a home language. Deaf learners read, study and are tested in sign language, which is their native tongue (Umalusi, 2018). However, while this study supports deaf learners, there are still difficulties in learning sign language, and dealing with it is a continuous process.

To this end, sign language acquisition has remained a challenge around the world, and numerous gaps need be addressed, studied further and examined for sign language to continue to progress. I discovered a void in the literature where sign language problems were discovered, as well as the need for deaf learners born to hearing parents in South Africa to receive assistance in learning sign language at home and school.

2.6.2.4 The impact of the South African National Council for the Deaf (SANCD) amendments that led to the Deaf Federation of South Africa (DeafSA)

In 1929, a national council was established to meet the needs of the deaf community; this council was known as the South African National Council for the Deaf (SANCD) and until recently was run entirely by hearing social and health workers (Monaghan et al., 2003). This initiative, owing to its exclusive and paternalistic nature, failed to meet the needs of all population groups, concentrating mostly on the white deaf community. In terms of language policy, the SANCD did not participate in the deaf community, as few, if any, of the staff could read the SANCD symbols. As a result, the SANCD made no policy decisions without consulting the deaf community (Monaghan et al., 2003).

Communication through visual media in different deaf communities was very low during the apartheid years, but since 1994, television programmes (Sign Hear and later Signature) were created for deaf people that used sign language, captions and speech. Prior to 1994, few deaf people had access to television, fax machines, or email (Monaghan et al., 2003).

2.6.2.5 Universal Design for Learning (UDL) for special need learners

UDL is a series of acts that culminate in a specific result. The design of the area in which a teacher teaches the lessons is led in part by the actions informed by UDL.

Learner outcomes are the specific outcomes a teacher is planning for, because they refer to learners' achievements. This becomes a continuous process (Rose & Meyer, 2002). Classrooms in South Africa are a melting pot of cultures, therefore it is of significance to recognise that all children have a unique, specific learning requirement, even though they all originate from the same community and have similar ethnic, social and economic backgrounds (Nelson, 2013). In order to create teaching and learning environments that accommodate these variations, the ideal solution is to adopt the UDL framework (Hall, Meyer, & Rose, 2012). Putting UDL into action can become automatic once the way in which the framework is organised is grasped, and the teacher becomes familiar with the vocabulary and acquires applicable methods for applying the framework (Nelson, 2013).

UDL is designed in such a way that it can be used in any educational situation. A teacher can make instructional decisions regardless of the subject area. Because the UDL framework is based on how humans learn rather than a collection of ideas or forms of practice, it can be applied in a variety of settings (Hall et al., 2012). UDL furthermore assists teachers to learn how to use it to create a range of classes and situations. The concern is that some examples might limit a teacher's understanding of UDL (Nelson, 2013). The examples, while written with the goal of providing something tangible, also force a teacher to generalise the knowledge to determine how it applies to the present teaching assignment and experiences (Nelson, 2013).

UDL is a framework, which means it is a set of big ideas organised in a way that leads to the provision of options. While the frame is defined and teachers should try to operate inside it, they have an array of possibilities within it. This is in contrast to systems that require the completion of a specific list of tasks or the design of lessons within a specific scope (Gargiulo & Metcalf, 2013). Educational research, educational psychology research, neuropsychological research and neuro-linguistic research have all contributed to the UDL framework (Rose et al., 2016).

A teacher will know that he/she is serving the diverse needs of each learner if he/she makes classroom and lesson-based decisions that conform to the ordered ideas within the framework. The UDL framework is divided into three sections: (1) principles, (2) guidelines, and (3) checkpoints (Rapp, 2014). This framework assists teachers of the Deaf in planning on how to teach and accommodate deaf learners

with various academic needs, indicating that UDL is of useful when teachers are willing to assist learners in improving lesson outcomes. In addition, UDL assists in creating a diverse classroom that will meet the diverse needs of deaf learners.

2.6.2.6 The curriculum in learning SASL as a home language to deaf learners

in South Africa the Curriculum Assessment Policy Statement (CAPS) (DBE, 2014a) was adopted to replace the National Curriculum Statement (NCS), which was the curriculum policy used by then. Skrebneva (2015) explains that learning sign language as a first language is explained as a tool for thinking and communicating, and it is a language that reflects a specific culture and aesthetic means that deaf people use to make sense of the world they live in, this is supported and has been stated on CAPS (2014a).

Learning sign language effectively helps deaf learners to gain understanding, communicate their thoughts, ideas and identity, enables communication with others and allows them to participate in their environment. It also provides learners with a diverse, strong and deeply embedded collection of images and ideas to help them make the world a better and more vivid place than it already is (DBE, 2014a). Moreover, language is used to communicate and create cultural variation and social connections. SASL is available as a subject at the Home Language level, but only until it is officially recognised, at which point it will be offered as a language (DBE, 2014a).

These policy decisions are based on several factors. As SASL is provided as a Home Language because it is the language in which deaf learners are most naturally fluent, any reference to Home Language should be understood as referring to the level of the language rather than whether the language is used at home or not (DBE, 2014a). On the other hand, deaf children born to hearing parents are not instinctively fluent in SASL, as previous studies have shown. As a result, 99% of deaf children learn sign language at school, not at home, as CAPS claims (McIlroy, 2017).

CAPS further states that deaf children who are born into deaf families learn sign language at a young age in the same way that hearing children learn a spoken language from their hearing parents (DBE, 2014a). The majority of deaf learners

though are born into hearing families and learn sign language from their peers and deaf teachers in schools for the Deaf (DBE, 2014a).

Furthermore, the suitable age for the SASL language basics must be established for all deaf learners to access the curriculum and improve literacy skills (Morgan, Glaser & Magongwa, 2016). Several assumptions have been made regarding the CAPS for SASL, including that the overview, content, and sequence would need to be as similar as possible to other home languages, that curriculum teachers would need SASL training and acceptable teaching methodologies, and that SASL Learning and Teaching Support Material (LTSM) should be defined and created (Morgan et al., 2016).

SASL is the primary medium of instruction and learning for deaf learners; however, since SASL does not have a written format, First Additional Language (FAL) is used as a literacy aid by the DBE CAPS (DBE, 2014a). In a bilingual-bicultural approach to teaching and learning, both SASL and FAL need to be included. Furthermore, SASL is used for all in-person teaching and learning while the written text is in the FAL (English or any other spoken language) (DBE, 2014a). Observing and signing, phonological knowledge (working with parameters), visual reading and viewing, and recording are four skills listed by CAPS in teaching SASL skills as Home Language (HL). An important aspect is language structure and use.

The CAPS states that there is currently insufficient research on SASL, implying that the SASL curriculum was derived from research conducted with other signed languages around the world. Moreover, future additions to the SASL curriculum will be based on ongoing studies in South Africa and abroad (DBE, 2014a). Furthermore, teachers are encouraged to use their classroom as a research resource, and all language differences (dialects) are acknowledged as part of the language's richness. Based on the research conducted on the access to signed language early in life, an environment with qualified signers is critical for deaf children to achieve first language capability in their formative years (Skrebneva, 2015).

2.7   TEACHERS WHO TEACH AND SUPPORT DEAF LEARNERS

According to Glaser and Pletzen (2012), the majority of deaf learners in South Africa are taught in classrooms where teachers use of mixed language styles. These

include haphazard and simplistic signing, exaggerated spoken languages that learners are expected to lip-read, and arbitrary manually coded spoken language systems that are inadequate, typically English or Afrikaans that do not measure up to SASL in terms of functionality.

Despite the fact that signed language has been adopted as the LOLT in many schools for the Deaf in South Africa, only 14% of teachers have well-developed SASL skills. The majority of teachers lack specialised expertise in using sign language to scaffold text literacy skills in a second language, as well as instruction in using a signed language to scaffold text literacy skills in a second language. There are only about 20 qualified sign language interpreters in South Africa, with only a handful working in education, and there are few deaf teachers in the school system. In South African inclusive schools, little is known about the experiences of deaf learners, teachers, and interpreters (Glaser & Pletzen, 2012).

Ntinda, Thwala, and Tfusi (2019) endorse the research findings that teachers who attend teacher education preparation programmes in special education are more effective at advancing learners' achievement than their peers who do not attend such programmes. As a result, previous and current studies indicate that there is certain expertise, skills and experiences that deaf learners' teachers need to use successful. The study revealed that teachers working with deaf learners mostly lacked adequate deaf language skills (Ntinda et al., 2019).

Teachers of deaf learners generally teach in mainstream schools, hence, a growing number of deaf learners are receiving their education in regular classrooms with the assistance of teachers who have received special training in Deaf Education (Ntinda et al., 2019). However, there is research evidence (Marschark & Hauser, 2012) that suggests that deaf learners' academic achievement and experiences are also evidence of many multifaceted variables such as the learners' characteristics and their family environments, as well as internal and external school experiences.

In addition, the training levels of deaf learners' teachers, as well as classroom settings and populations of deaf learners in classrooms, are rapidly shifting, necessitating the hiring of more well-trained deaf or special education teachers to meet the varied needs of deaf learners. Teachers play a vital role in assisting deaf

learners in their educational pursuits (Ntinda et al., 2019). Furthermore, discrepancies in learning with experienced teachers as opposed to conventional teachers are unlikely to be explained purely by teachers' actions, as deaf learners feel they learn more from deaf teachers, and teachers who are non-native signers have less of an impact on learning sign language (Marschark & Hauser, 2012).

Some teachers resign from the field due to stress and limited resources related to teaching deaf learners with diverse needs. As rewarding as Deaf Education can be, without appropriate tools and with learners who encounter various issues it is a difficult task (Marschark & Hauser, 2012). Teachers of the deaf encounter a much higher rate of challenges than teachers of hearing children (Marschark & Hauser, 2012). Ntinda et al. (2019) claim that deafness affects children's learning in the production of usable communication skills if deaf language teachers are not well-educated. It has been stated that teachers lack the technical skills required to teach the standard curriculum, as their tertiary education institution did not adequately prepare them to teach deaf learners (Ntinda et al., 2019).

Marschark and Hauser (2012) briefly address the following approaches or gaps in the ways that teachers use to teach and help deaf learners studying sign language.

2.7.1 The role of teacher aides to support deaf learners

In some conventional educational environments, a teacher assistant works with classroom teachers to support deaf learners; a teacher may be specifically selected to support deaf learners, or assigned to a classroom for various purposes depending on the situation (Miles & McLetchie 2008). In some circumstances it can happen that the deaf learner is not competent enough in the required language skills to be in the classroom without a teacher aide. In cases where a teacher aide is not an instructional translator, the deaf child may have trouble following the teaching and learning in the classroom and needs the aide to point out where to look or to elaborate on the classroom material (Marschark & Hauser, 2012). Additionally, the teacher aide may be more fluent than the teacher in sign language. Finally, a teacher aide can arrange for deaf learners to have individual lessons and offer instruction in the classroom (Marshark & Hauser, 2012).

Consequently, due to the wide range of needs and abilities of deaf learners in the classroom, teachers may need assistance in meeting all of the learner's academic, language and behavioural needs. As a result, in some schools, teacher aides are hired for deaf learners to increase the amount of sign language in the classroom and provide deaf role models. Deaf teacher aides are not only assigned to deaf classrooms but also to mainstream classrooms (Miles & McLetchie, 2008).

2.7.2   The impact on lack of professional training of teachers of the Deaf

A study conducted in Eswatini based on teachers' personal and qualification profiles, it was discovered that only four teachers hold a degree in special needs or comprehensive education in one of the schools with 18 staff members (Ntinda et al., 2019). Subsequently, more research has established that the majority of teachers in Eswatini lack professional training competencies in special needs education as well as SASL competence to teach deaf learners, thus affecting deaf learners' sign language acquisition (Ntinda et al., 2019).

Ntinda et al. (2019) addressed the consequences of teachers of deaf learners lacking professional competencies to teach and adapt to the mainstream curriculum, which has a significant effect on the educational achievement and experience of these learners. This is because deaf learners' teachers lack creative teaching methods, which reflects on all tertiary institutions in Eswatini where teachers are educated, necessitating the need for curriculum developers to ensure that Deaf Education is included in teacher training. Such changes and advancements in teacher training would allow for adequate learning in how to teach and treat deaf learners in the future (Ntinda et al., 2019).

Manga and Masuku (2020) study indicates that in South Africa, because of a lack of education and training of teachers to teach deaf learners, the majority of participants reported being under-prepared in their teaching role for deaf learners. Current findings support the narrative that teachers, assistant teachers and staff working in schools catering for deaf children are not adequately equipped with the necessary skills and knowledge. Frustration as a result of communication barriers was also experienced by some teachers and assistant teachers (Manga & Masuku, 2020).

The findings of the study of Manga and Masuku (2020) confirmed that the ability to foster a means of communication with a deaf child is both the most important and challenging requirement (Miles & McLetchie, 2008). This is particularly true in school settings where teachers lack training in communication strategies (Charles, 2014). The obvious difficulty for the deaf person in trying to communicate is that very few people understand their communication attempts (Charles, 2014). Consequently, the lack of an effective communication system interferes with and hinders activities of daily living for the deaf child (Miles & McLetchie, 2008).

Communication challenges are experienced by deaf children. These challenges are exacerbated by difficulties in self-regulation and self-monitoring (Nelson & Bruce, 2016). Communication challenges can further also cause frustration for the communication partners (Gregory, 2017), who in this case happen to be the teachers and assistant teachers of these children. It is therefore imperative that an effective method of communication is fostered to prevent misinterpretations between the two parties (Gendreau, 2011). This can be established by training teachers and assistant teachers on deaf communication strategies and facilitating communication (Greg, 2017).

The majority of teachers and assistant teachers in this study of Manga and Masuku (2020) had no basic formal teaching qualifications; furthermore, they had not been capacitated and supported to deal with deaf children. Teachers and assistant teachers were not provided with the support that they needed in terms of workshops, training, counselling and debriefing.

Therefore, if teachers lack the necessary knowledge, skills and resources, they will not be able to fulfil the necessary roles in adequately supporting deaf children. If the goal of inclusive education for children with disabilities is ever to be realised, teachers need to be provided with new skills, training and support, which will enable them to appreciate and address the variety of diverse learning needs of these children (Manga & Masuku, 2020).

2.7.3   Educational Interpreters

Interpreter training programmes usually last two to four years and assume that trainees are proficient in signing skills. Interpreter training provides deaf learners with

a high level of signing skills, as well as teaching them how to transfer knowledge from one language to another while acknowledging the uniqueness of deaf identities and the environment in which they will work (Nelson & Bruce, 2016). Furthermore, some sign language interpreters work exclusively with deaf learners and teachers in a classroom environment (Nelson & Bruce, 2016).

The gap that exists in the skills and training of South African teachers of deaf children, specifically in inclusive education and in special schooling environments, has been highlighted as one of the significant challenges of inclusive education in South Africa (Dalton, Mckenzie, & Kahonde, 2012). The results of these teacher training and skills gaps are evident in the quality of care and engagements that deaf individuals experience (Skrebneva, 2010). Because of the lack of knowledge and skills in communication, teachers of deaf-blind learners often miss or misinterpret the subtle, slow-paced and often difficult to understand interactions of these children, resulting in frustration for both the teacher and the deaf child (Skrebneva, 2010). Gaps in the implementation of White Paper 6 (2001), and ultimately inclusive education, therefore, have negative consequences for both the deaf learner and the teacher (Manga & Masuku, 2020).

2.7.4   Recommended teaching methods for deaf learners

Zysk and Kontra (2016) make the following practical recommendations in support of teachers teaching deaf learners:

- Learners need to be positioned in a way that they can see the teacher and other learners in the group to enable the easy perception of sign language and speech reading. In addition, small groups and clear lighting are needed.
- Background noise must be less and good acoustics provided to aid listening, hence the use of teaching materials that visualise information is vital.
- Technical aids must be checked to ascertain whether they are working; moreover, hearing staff and learners in the group must know how to communicate with deaf learners.

- A teacher is not supposed to request deaf learners to look at their books while explaining a lesson because deaf learners are unable to look in two directions at once. Present the text in a PowerPoint slide or on a smartboard.

- Teachers should also note that deaf learners tire faster than expected, thus a lesson needs to have various activities to change their focus and rest their eyes.

- Deaf learners must be given time to think over the lesson learnt and a chance to practise.

These recommendations emphasise that successful communication with deaf learners is powerfully dependent on visual attention. Hence, joint attention should be encouraged: the teacher points to the visual and waits a few seconds before explaining the content (Zysk & Kontra, 2016). Deaf learners first look at the visual information presented and then change their focus to the speaker; however, if a learner looks away even in few seconds their attention may be lost. Teachers can use numerous methods, also known as interventions, to draw learners' attention. This involves clapping, waving, moving the head from side to side, and using a pointer to draw back attention whilst permitting language input. Moreover, it is worthwhile to remember that communication should be relevant, meaningful, and visually accessible (Zysk & Kontra, 2016).

2.8   THEORETICAL FRAMEWORK OF THE STUDY

The theoretical structure for the study is based on Vygotsky's perspective on children's language learning, and the following are two examples of how he explored the practical aspects of learning a language, specifically sign language, and the effect it has on the growth of deaf children.

During the 20th century, Vygotsky implemented a comprehensive inclusive theoretical framework to encourage compassionate practices in special needs education (Gindis, 1999). Vygotsky is one of the ground-breaking theorists who are recognised by leading educationists and psychologists as the founders of special needs education (Langford, 2005). Langford (2005) states that Vygotsky's theory is the foundation of constructivism. This theory brought a broader understanding aimed

at comprehending knowledge of cultural, historical and philosophical contexts influenced by Marxist and Hegelian philosophies (Langford, 2005).

2.8.1   Social Interaction

Woolfolk (2010) describes Vygotsky's understanding of social interaction as one of the main ideas relating to mental structures and processes that can be traced back to a person's interactions with others. Vygotsky stated that children's cultural development functions on two levels, "on the social level (intrapsychological) and the individual level (intrapsychological)" (Woolfolk, 2010, p. 43). Hence, this theory relates aptly to deaf learners, as they are born and live in a society where they have to interact with others using a language.

Vygotsky also proposed private speech as one of the contributions to language development (Montero et al., 2009). However, the basics of children's social domain depends on interaction with others; parents' and caregivers' social speech towards the child functions to monitor and regulate children's behaviour and attention which gradually becomes internalised during the toddler stage and preschool years, as the child begins to self-talk out loud. This guides their behaviour, thinking and problem-solving (Drew & Couperkuhlen, 2014).

Thus cultural (social) signs or tools of language are first used for interpersonal communication. They are used by the child mainly for self-guidance and intrapersonal communication. Through the process of appropriation of a language for the self, an important cognitive transformation of the child occurs when pre-intellectual language and pre-linguistic cognition to generate verbally mediated thought (Nordenhof & Gamneltoft, 2007).

Moreover, Gindis (1999) further explains that any language is learnt within a society and through interaction, new words are learnt. Improvement of a language is developed through communication. Interaction cannot be isolated although it might be more difficult for deaf learners, as they use sign language, facial expression and gestures to communicate (Moll, 1990). However, sign language is a minority language and as such has an impact on deaf learners and also on their interaction with hearing people (Gindis, 1999).

Since the deaf child is born into a world where information is readily available as a simple way for communicating with people and objects, it is critical to distinguish between knowledge that is readily available to the child and the child's acquisition and creation of that knowledge (Daniels, 2003). When children gain knowledge and develop various skills, such as seeing and interacting with pictures, these are also the product of culturally and societally defined mechanisms for resolving social problems. The child's development is linked to societally defined practices and traditions at every level. However, just as a child's idea development is linked to the acquisition of cognitive procedures, societal understanding and skills are inextricably linked (Daniels, 2003).

Vygotsky's original philosophy was wider than just verbal language, indicating that the symbol systems and signs that language more basically forms part of, are firstly used socially and then changed inwardly to monitor an individual's thinking privately (Fitch & Sanders,2004). In addition, children use a variety of gestures and point early on to tangible things to direct meaning and share information with others, which occurs before they can have proper language communication (Van Compernolle, 2015).

2.8.2 The impact of language use on the sociocultural context

Vygotsky distinguishes between basic, organic deficits discovered and cultural shortfalls within the child as a purpose of the social and cultural context to which the child is exposed (Vygotsky, 1993). Vygotsky (1993) further explains that some of the expectations are of seeing familiar patterns of language development, parent to child interaction, and as a result, normal child internalisation of language (signs) and the usage of private signing for the attainment of self-regulation among deaf children who learnt sign language from their deaf parents at a young age. Deaf children of hearing parents, on the other hand, who use less sign language, do not have a natural language to communicate effectively with their hearing parents and as such they are expected to have unique social and language backgrounds (Vygotsky, 1993).

However, the outcomes of such a barrier in communication with deaf children may have an impact on their use and internalisation of language for both interpersonal

and intrapersonal self-regulation purposes which might be significantly disrupted (Vygotsky, 1993). Wang (2015) describes the process of language acquisition as being intensely affected by the process of becoming a competent member of society, as the procedure of being a complete member requires competence in everyday language use. As the situation differs for deaf children, hearing children acquire information and interpretations in and across socially defined contexts (Wang, 2015).

In view of the significance of language as an instrument for thinking and higher-order behavioural control, deaf children might be at risk holistically and psychologically and encounter behavioural complications when not granted the opportunity to use and internalise this sign language instrument (Vygotsky, 1993). To this end, the data generated concludes that deaf children with hearing parents with no sign language experience and usage are affected in terms of the development of sign language acquisition, thus creating different interaction patterns and experiencing later behavioural and adjustment issues compared to deaf children who acquired sign language from an early age (Vygotsky, 1993).

2.8.3   The zone of proximal development

Vygotsky's proximal development combines a pedagogical perspective on instruction with a fundamental psychological conception of a child's development. The key idea behind the definition is that psychological development and instruction are socially rooted and that understanding them requires an examination of the underlying social interaction and its social ties (Daniels, 2003).

Woolfolk (2010) explains that the zone of proximal development (ZPD) is a stage in which a child can master a task when she/he is offered the necessary assistance and support. Daniels (2003) described the zone of proximal development as the point at which a child can repeat a series of acts that are beyond his or her capabilities but only to a certain extent. When children are imitated (an adult imitate what the child said or do), they can do even more when they are grouped and supervised by adults rather than when they are left alone, and they can do so with greater comprehension and independence. The zone of proximal development is defined by the variations between the level of problem-solving tasks that can be

completed with adult guidance and assistance, as well as the degree of independently solved activities (Daniels, 2003).

The zone of proximal development is the distance between the child's present level of development and what the child can attain "through adult guidance or in collaboration with more capable peers. It is a vibrant and changing space as learners and teachers interact and understandings are exchanged (Vygodskaya, 1999). According to Gindis (1999), Vygotsky demonstrated that scaffolding reveals a child's latent ability by exposing abilities that have been growing and evolving (not yet matured), which is the critical stage for both diagnosis and prognosis (Gindis, 1999). Hence, the zone of proximal development plays a vital role in sign language acquisition. Deaf children learn like other hearing children, the only difference is the process of the acquisition of spoken and sign language.

Vygotsky recognised sign language as a natural form of communication for deaf people as well as a means of gaining social experience (Zaitseva, Pursglove, & Gregory, 1999). This theory has had a significant impact on the development and restructuring of Deaf Education. The normative features of the development are addressed in the zone of proximal development, which is driven and monitored by instruction in science principles deemed necessary by curriculum planners and teachers (Daniels, 2003). The scientific concepts relate to and develop the child's everyday concepts; the degree to which the child masters daily concepts reveals his precise level of development as well as the degree to which scientific concepts have been mastered. It also reveals the child's zone of proximal development (Zaretsii, 2009).

Furthermore, the zone of proximal growth is used as a tool for class instruction. In a classroom environment, it has been shown that through class discussion, task solutions and group work, it is possible to make a class function actively as a whole (Daniels, 2003). The children's research activity was central in these directed actions, which eventually led children to critical assessments of the concepts. Additionally, this was regarded as effective in establishing a shared foundation for the children in the class from which subsequent teaching could be established (Obukhova & Korepanova, 2009).

I relied on Vygotsky's perspective for this study which is based on his theoretical framework. This clarifies how children learn and acquire a language or a skill, at home or school, when the child is fully supported by an adult to achieve the development of a language and skills, as well as the impact this has on the development of a language. In same way, deaf children need to be supported and taught in the process of sign language acquisition. During a child's development and learning, the zone of proximal development and interaction are active both at home and at school.

McCarthy, Wisler, Atencio and Chabay (1999) addresses the findings of a study that showed that deaf children born to deaf parents have higher consistency and complexity of parental scaffolding, engage in private signing, and achieve better outcomes on tasks later than deaf children born to hearing parents. On the other hand, it was discovered that deaf children of hearing parents with high sign language abilities participate more in private signing and do better (similar to deaf children of deaf parents) than deaf children whose hearing parents were less fluent in sign language (McCarthy et al., 1999).

These outcomes indicate that rich communication exchanges between parents and children using an oral or signed natural language are significant for the growth and eventual internalisation of deaf children's private speech, regardless of the modality of that language (McCarthy, 1999). It is vital to note that familiar patterns are discovered in the theory of mind and parent–child interaction literature (McCarthy et al.,1999).

It follows then that few deaf children are born to deaf families who use sign language as their basic communication method from birth, as most hearing parents who give birth to deaf infants have no basic experience or understanding of sign language. Hence, some hearing parents decide not to use sign language at all, which leads to deaf children achieving minimal competence in the language. Others become competent in sign language in their early years, and this results in great modification to the early communication and social interaction between parents and their deaf children (Greene & Burleson, 2003).

2.9   THE IMPACT OF DEAFNESS ON A CHILD'S DEVELOPMENT

In comparison to deaf child's native signing and hearing peers, the growth of deaf children from hearing families taught in either spoken or signed language is delayed in improving signing skills (Slegal & Surian, 2012). One fair interpretation of these results may be that engaging in daily conversations with family and friends helps people understand others as mental agents in some way (Siegal & Surian, 2012). Child development in general and child development in deaf children specifically are briefly discussed in the following sections.

2.9.1   The normal expectations of child development

It is of vital importance to discuss and explain what is expected of a child without disability development compared to what deaf children encounter in the process of development. The focus is mainly on the cognitive, social and language development of a child. Cognitive development refers to the progressive evolution of mental processes, as children grow more complex and sophisticated in their thinking (Woolfolk, 2010).

2.9.1.1 Piaget's cognitive developmental stages of child development

Woolfolk (2010) and Saracho and Spodek (2012) discuss Piaget's cognitive developmental stages as follows:

> **Infancy: the sensorimotor stage:** The child's thinking throughout this phase, which lasts from nought to two years, is based on seeing, hearing, moving, touching and tasting, among other things.
>
> **Early childhood to the early elementary years: the preoperational stage:** This stage begins between the ages of two and seven and follows the sensorimotor stage. During this time a child may employ a variety of action schemes as long as they are related to bodily acts; however, these schemes are useless for remembering the past, keeping track of knowledge, or planning.
>
> **Later elementary to the middle school years: the concrete operational stage:** The simplest explanation for this period, which lasts from seven to 11 years, is when a youngster is able to recognise the physical world's logical stability. This includes the realisation that elements can be modified or

transformed while retaining many of their original properties, as well as the knowledge that these can be reversed.

High school and college: formal operations: This stage lasts from 11 until adulthood, and is a period in which some students may remain in the concrete-operational stage throughout their school years, if not their entire lives. However, new experiences, most of which occur at school, eventually present most learners with difficulties that they are unable to handle using concrete methods. This formal operation is concerned with mental tasks including abstract reasoning and multi-variable coordination.

2.9.1.2 Social development of a child

The focus on social development has been on the personal self rather than the social self. The developmental changes in self-concept that occur between early infancy (0–2 years) and middle childhood (7–12 years) have piqued researchers' interest (Berk, 2013). Children's self-descriptions typically pertain to outward qualities and social relationships before the age of seven to eight years. Children's self-descriptions around the age of eight consist primarily of assertions that allude to stable traits (Berk, 2013).

Furthermore, children's perceptions of people's stability and predictability are no longer formed solely through global assessments (good or bad person), However, individual differences in dispositional features can also be recognised. Changes in early to middle childhood in the self and other perceptions have significant ramifications for both children's comprehension of social categories and their identification with them (Berk, 2013).

As a result, the most important social categories for young infants are those that include obvious physical differences, such as sex and race, implying that children's early comprehension of social categories begins with an awareness of physical differences and similarities. Despite the fact that age is a significant social identity, it has received little academic attention (Smith & Hart, 2011). In addition, this kind of social development in a child differs from what is encountered by deaf children born to hearing families, as their social development is hindered as a result of a sign language communication barrier.

2.9.1.3 Language development

According to Gerken (2009), a person must consider the combinatorial structure of language in greater depth in order to completely comprehend the linguistic system that children create. Many organisms, including humans, interact with one another, but human language has two characteristics that no other communication system has. Firstly, human language may mix meaning units such as words, and different combinations of the same words, to obtain distinct meanings. Secondly, language's meaning units (e.g. words) are not atomic or indivisible units, but rather are made up of a limited number of smaller pieces known as sub-meaning units (Gerken, 2009).

Language development, according to Woolfolk (2010), is the stage in which all children in every culture have to master the complex system of their native language, unless extreme deprivation or physical issues intervene. Children must synchronise sounds, meanings, words and sequences of words, loudness, voice tone, inflection, and turn-taking rules in order to hold a conversation. However, by the age of four, most children have amassed a vocabulary of thousands of words and a working mastery of basic grammar rules for basic conversation. This kind of language development is the opposite of what deaf children experience on a day-to-day basis in relation to sign language development (Woolfolk, 2010).

Woolfolk (2010) further states that by the age of five, a child is anticipated to have learnt the sounds of their native language, although a few sounds may remain unmastered. Children can express themselves with roughly 450 words between the age of two and five, and their expressive vocabularies will rise to 2600 words by the age of six. Children who are learning two languages at the same time, on the other hand, have smaller vocabularies in each language than children who are learning only one (Bernman, 2016). The right use of language to communicate in social contexts, such as how to initiate a discussion, tell a joke, interrupt, keep the conversation going, or change your language for the listener, are all covered under the use of language in social contexts (Bernman, 2016).

2.9.2   Cognitive and social development of a deaf child

Deaf children do not usually have a cognitive impairment that makes them averse to social contact, but they are cut off from or disadvantaged in daily communicative environments in certain significant ways (Mesthrie, 2004). The case of environmental and cognitive effects on atypical children's growth in theory of mind is of great theoretical significance because it allows researchers to disentangle some of the language variables that are thought to be important in this regard (Mesthrie, 2004).

Siegal and Surian (2012) further state that when it comes to deaf children, parents' use of appropriate mental states can be more difficult to achieve when the children have serious language deficits, and caregivers find communicating with their deaf children difficult. Mesthrie (2004) continues to explain that research on mentalising skills (the process of making sense of the self and of others, both implicitly and explicitly) in deaf children has been done in a number of countries, with differing viewpoints on Deaf Education and children exposed to a variety of sign languages. As a result, despite the fact that deaf children are exposed to a number of language varieties at school, their verbal reasoning development is mostly impaired.

Non-native late-signing deaf children, that is, deaf children who grow up with hearing parents and thus do not have sign language as their primary language, perform worse on verbal tasks than their hearing-age peers (Mesthrie, 2004). According to a study, 40% of a group of deaf late signers aged 13 to 16 years failed the standard unexpected position false-belief task (a task normally used in theory of mind studies in checking whether a child can infer that the next person does not understand the knowledge that they possess), compared to 15% of hearing three to five-year-old children (Eddy & Engel, 2008). Native signing deaf children, on the other hand, do not lag behind normally developing hearing children in their theory of mind success. These are deaf children who have deaf parents with sign language as their first language (Eddy & Engel, 2008).

Furthermore, research with profoundly and prelingually deaf children from hearing homes who were taught in an oralist mode, has shown that these children are behind in improving verbal theory compared to late-signing deaf children attending bilingual schools (Eddy & Engel, 2008).

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2.9.3   Communication and behaviour

Deaf children's communicative interactions in the classroom seem to influence their production of mentalisation, as native-signing deaf children in bilingual programmes outperform native signers in oralist programmes that focus solely on voice (Slegal & Surian, 2012). This research indicated that deaf children whether from hearing or deaf families, profit from bilingual instruction in expressing understanding of how others' beliefs, feelings and intentions can influence their thinking and behaviour (Siegal & Surian, 2012). Another explanation is that deaf children lack the development of more advanced theory of mind (a social-cognitive skill) capacities, due to the limited communication means they are faced with in a hearing environment. Consequently, they have restricted opportunities to learn from others' and their own experiences in this respect (Rieffe, 2003).

Even if deaf children are fluent in lip-reading, these results have significant consequences for their instruction in terms of the advantages of continued exposure to a sign language for their social knowledge. When it comes to mentalising, there seems to be much versatility and much space for growth and transformation that goes beyond early childhood (Siegal & Surian, 2012).

Terwogt and Rieffe (2004) have discussed the behavioural issues related to deaf children, with deaf children being regarded as obstinate and stubborn by nature and as aggressive, specifically boys. This behaviour has been confirmed and measured through the criteria used for behavioural problems. It was also observed that deaf children are more frequent in behaviour among their hearing peers (Terwogt & Rieffe, 2004). If deaf children have not yet fully acquired the basic skills of behaviour taught by their parents at home, they will find it difficult at times to understand other people's behaviour and become short tempered as a result (Terwogt & Rieffe, 2004). The results of Rieffe's (2003) research, with nine to 11-year-old deaf and hearing children, confirmed this pattern and showed that deaf children tend to concentrate primarily on the fulfilment of the desires in their emotion predictions and explanations, whereas they neglected the factors that had led to the negative outcome.

Rieffe's (2003) findings confirmed that deaf children have a different rationale about the emergence of emotions from their hearing peers. It appears that deaf children

more often than their hearing controls predict the behaviour of others based on their own knowledge concerning the situation. Lastly, deaf children's alleged difficulties with expression and understanding of emotions may have been instrumental for this phenomenon.

2.9.4   Memory

According to Arfe, Dockrell, and Berninger (2014), working memory refers to a complex temporary memory system that encodes, maintains and elaborates information, as well as executive control functions that allow the system to maintain focus and regulate effort during a task. According to previous studies of Smith and Hart (2011), deaf children have a particular deficiency in encoding and storing verbal and nonverbal information in serial order in working memory tasks. deaf children are not as alert to the temporal order of knowledge as their hearing peers, which is thought to be due to the impact of early auditory deprivation (Arfe et al., 2014).

Indeed, the ability to serially store, retain, and retrieve verbal information seems to evolve as a result of a child's early sensory experiences and language learning, which are thought to specifically influence these processes and the verbal working memory system (Arfe et al., 2014). Early auditory deprivation in deaf children can stifle this development, affecting verbal language acquisition as well as reading and writing development (Arfe et al., 2014).

Lastly, the various issues experienced by deaf children in terms of cognitive, language, social, communication, behaviour and memory development are mainly caused by sign language acquisition challenges. Thus it is important to briefly discuss what is experienced by hearing children versus the experiences of deaf children in language acquisition and usage. Language is the key to a child's development, as language remains the main method of communicating and engaging with other people and a language is used when thinking, which is cognitive.

2.10   SUMMARY

In this chapter, I have identified and explained SASL and deafness, as well as addressing current literature on barriers to sign language acquisition, Deaf Education, the history and context of sign language in South Africa, policies and

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legislation pertaining to the Deaf, and Deaf Education reformation. Throughout the years, there have been difficulties and developments in sign language. I looked at one of the successes in the acceptance of SASL as a teaching and learning language in South Africa. I also explained the support offered by teachers of the Deaf in various strategies and encounters of sign language acquisition. Lastly, I discussed possible recommendations for teaching methods pertaining to deaf learners.

The literature reviewed led me to use Vygotsky's sociocultural perspective as the main theory to guide this study. This theory was furthermore related to sign language acquisition by deaf children. Thus, this study was informed by the theoretical framework, exploring the two strategies i.e. social interaction and the zone of proximal development.

In the next chapter, I discuss and outline the research design and methodology applied in this study.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

In this chapter, I explain and describe the research methodology that was implemented to investigate the sign language challenges that deaf learners encounter. Firstly, the research paradigms are stated, followed by a discussion of the methodological process used to conduct the study and how sampling was conducted in the field. A brief explanation of the data collection techniques used in the study is included to ensure accuracy. The data analysis techniques used in the study and the role I played as the researcher are also presented. The validation and reliability of the study in order to uphold the trustworthiness of the data collected are presented. A brief discussion on how the ethical process commenced and permission obtained from the research participants follows.

3.2 RESEARCH PARADIGM

Guba and Lincoln (1994) describe a paradigm as the worldview or a belief system of the researcher which underpins the study. While Sefotho (2014) describes a research paradigm as a framework that defines what is acceptable and what is not, and the way the social world is viewed and perceived by social scientists. Sefotho (2014) also defines it as beliefs, practices, or worldviews which influence researchers The epistemological stance for this study is interpretivism and a qualitative methodological approach was followed. The researcher employed an interpretive paradigm for this study, this paradigm was considered appropriate for determining dead learners, their hearing parents and teachers' views on sign language acquisition challenges. In addition, the research paradigms for this study are explained in depth and the reasons for making such choices are stated. These choices are pertinent and appropriate for obtaining the experiences of a certain group of people (deaf learners, teachers and hearing parents) in relation to the study.

3.2.1 Epistemology

Maree (2016) explains epistemological assumptions as knowledge that can be viewed in one or two ways (epistemological and ontological). Therefore, the epistemology for this study was an interpretive paradigm, as it attempted to generate reality as seen by the individual. The reality was interpreted as it is used to ascertain the fundamental meaning of events and activities (Sefotho, 2018). The researcher employed an interpretive paradigm for this study.

Walliman (2018) describes interpretivism as an approach that focuses on the philosophical doctrines of humanism and idealism; it maintains that opinions of the world we live in and see around us are determined by the formation of individualised ideas. This perception does not mean the world is not reality; rather, it is about how one experiences it personally through views that are influenced by our prejudices, values and beliefs (Walliman, 2018). People are not unbiased but rather intangible observers within the society in which they live. Moreover, a researcher does not witness a phenomenon from outside the system, but within the human-bound situation that the researcher is studying. Hence, a researcher must not be ignorant towards what is subjective, creative and individual, as facts and values cannot be segregated. A researcher encounters a world that has already been analysed and interpreted, and thus has to reveal the existing knowledge based on the definitions made by the human participants (Sefotho, 2018).

I build my research on an interpretivism paradigm, which is primarily based on the evidence that reality is socially constructed in various situations. McMillan and Schumacher (2010) explain interpretivism as a researcher's understanding of the practice or event within the specific social context in which it occurs. It takes into account people's behaviour as defined by their specific worldviews, making it essential for the researcher to grasp and comprehend the social world from the participants' perspectives. Thus, to emphasise the importance of the individual, the researcher develops a sense of the participants' subjective environments, focusing on meaning and beliefs rather than numbers (McMillan & Schumacher, 2010).

3.2.1.1 Advantages of this paradigm

Interpretivism allows the researcher to take into consideration participants' languages and actions in their natural settings (Creswell, 2018). This resulted in the possibility of the data being appreciated in more depth. Therefore, I had to

understand how my participants made sense through interpretation within the natural context in which a phenomenon arose. Neuman (2006) explains the benefits of using interpretivism as an epistemological paradigm, as it allows the researcher to collect data from participants in their natural environment. Interpretivism is unique in the manner in which it allows the researcher to obtain insight into the experiences of participants, by comprehending the knowledge and process that can be gained from it.

An interpretivist stance granted me an opportunity as a researcher to play an active role during the data collection process (Chesebro & Borisoff, 2007); however, Creswell (2013) cautions that qualitative researchers' writings cannot be segregated from themselves nor the participants of a study.

3.2.1.2 Challenges related to interpretivism

Challenges related to an interpretivist paradigm involve a possible lack of generalisability and trustworthiness, and questions regarding rigour, as well as possible blurred lines concerning applying ethical guidelines. Thus, keeping in mind these encounters, I had to remain mindful of possible pitfalls I might experience during the research and attempt to address them. Therefore, I do not view the fact that interpretivist research does not permit generalisability (Mouton, 2001) as a constraint on the research associated with the aim of this present study. I followed a case study design, as I set out to obtain insight into a particular context, and did not aim to gain generalisable findings, although the findings of this research study may in certain circumstances still be transferable to a similar context.

3.2.2 Methodological approach

The methodological approach used in this study is a qualitative research method. Qualitative research focuses on how people live and its purpose is to shed light on and to explain their authentic experiences (Polkinghorne, 2005). Furthermore, McMillan and Schumacher (2014) explain that a qualitative study requires interviews or observations in order to gather information from participants in their usual environment. A qualitative approach is a concept that includes several research designs (e.g., case study, ethnography, grounded theory, narrative inquiry, and phenomenology) characterised by specific design assumptions, sampling

procedures, data collection, and data analysis protocols (McMillan & Schumacher, 2014).

The value that a qualitative method held for this study was that it assisted in explaining in detail the challenges of sign language use and acquisition, asking in-depth questions, and seeking clarity in explaining the experiences of deaf learners, teachers, and their hearing parents based on their experiences of the use of sign language. The advantages of using a qualitative method were that as a researcher I could be in contact with the participants to understand their perceptions and experiences, and could attain collective perceptions or views of the same situation. I was also able to retrieve a detailed description of the phenomenon of deaf children's acquisition and use of sign language.

Qualitative method offers the possibility of comprehending the phenomenon being studied and researched (Opdenakker, 2006). I focused on the participants' views and the meaning that they attached to the phenomenon of deafness. I relied on the deaf learners, hearing parents, and teachers as participants during the research process. A qualitative approach allowed me to obtain different perceptions, insights, and understandings from the participants' viewpoints, and also experiences of the world related to sign language challenges. Hence, this approach allowed me to form a thorough opinion of the participants' experiences (Houser, 2009).

3.3   METHODOLOGICAL PROCESS

The methodological process describes how a study will be conducted in the field using the identified design, and sampling strategies, as well as how a study will commence using the relevant procedures to be followed by a researcher. Thus, it is important to explain how this research was conducted and the phenomenon investigated in the field (Houser, 2009).

3.3.1   Research design

The aim of the study was to explore the phenomenon of sign language challenges encountered by deaf learners born to hearing parents. The case study design allowed me to use different resources (audio and video recordings, observation checklist) as a way of gathering data from all the participants. A descriptive case study design was deemed an appropriate choice for this study, as the design was

helpful in facilitating and exploring the phenomenon of sign language use and acquisition. The descriptive case study design entailed the use of various data sources within the context of the study (Baxter & Jack, 2008). These various data sources were used to define the challenges that deaf learners encounter in their real-life setting in the use of sign language (Maree, 2016). Using this design, various aspects of the phenomenon were exposed and explained. Moreover, it allowed the researcher to explore the individual contexts, organise the appropriate research design, and build a positive relationship with the participants (Baxter & Jack, 2008). As the researcher I made use of interviews, observations, questionnaires, checklists and documents in this study.

A case study, according to McMillan and Schumacher (2014), is a systematic study of a single unit; it is a decision a researcher makes on what to investigate, and the focus is on a single individual or a single instance. It allows a researcher to share various characteristics of ethnography. However, a case study research design not only refers to the type of research method that a researcher employs, but also guides the researcher to choose an appropriate type of analysis (Creswell & Creswell, 2018).

Creswell and Creswell (2018) further state that a case study provides precise direction on the procedures to be followed in a research study, which some researchers refer to as strategies of inquiry. As a result, a descriptive case study can be found in a variety of fields, especially evaluation, where a researcher conducts a thorough investigation of a descriptive case.

However, a descriptive case study is bounded by time and activity. Accordingly, I made sure that the time allocated to complete the research was used effectively and efficiently. Creswell and Poth (2018) state that a case study investigation commences with the identification of a precise case that will be defined and analysed. Where a single descriptive case is selected, a researcher typically studies a current, real-life case in order to gather accurate updated data.

3.3.2 Research site and sampling

The research location was a governmental school for the Deaf in the Gauteng province of South Africa. The school was purposefully chosen as it provides

education for learners with severe hearing disabilities as well as specialised tuition and education for deaf learners. The school was furthermore selected as the research site because of its use of SASL. The school management consists of a principal assisted by two deputies and seven heads of the department, 28 teachers, four clerks and three assistant interpreters. The school had 205 enrolled learners at the time of the research. There are 20 Foundation Phase classes and nine Intermediate and Senior Phase classes. The school accommodates Grades R to 12 and the home language is SASL with English as first additional language, the research focused on the intermediate phase of the school.

Yin (2016) explains that the purpose for selecting specific case studies is to have participants who yield the most appropriate and plentiful information based on the research questions of the study. Interviews with deaf learners, teachers and hearing parents were conducted and classroom observations took place in Grade 6 intermediate phase classrooms during the teaching and learning process. The following comprised the participant selection criteria of the study:

- Six deaf learners in Grade 6 (three boys and three girls) with the ability to communicate in SASL and their hearing parent/s for interviews. The reason choosing Grade 6 learners, it is because of they are already fluent in SASL and able to sign properly and by requesting their parents to be part of the study was to be able to relates what was said or indicated by learners with what their parents have said, in order to compare the data and conclude the findings from both sides.
- Two teachers of each of the participating deaf learner who have more than two years of experience in teaching SASL. Teachers with some years of experience have rich information that is based on experience of real life situation, that it is the main reason of choosing them to be part of the study.

One of the challenges I encountered when attempting to implement the purposeful sampling strategy was that one of the experienced teacher who agreed to be part of the study became ill, and I had to wait for her recovery before being able to interview her.

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3.3.3 Data collection techniques and processes

3.3.3.1 Semi-structured qualitative interviews

Data were collected by conducting interviews with deaf learners, teachers and hearing parents. Audio and video recordings were used during the process. Creswell and Poth (2018) describe that an interview should be considered social contact founded on a conversation, where knowledge is built in the interaction between the interviewer and the interviewee. An interview is furthermore described as an attempt to comprehend the world from the perspective of the subject. This is done by uncovering the interviewees' lived experience by asking them questions, thus unpacking the meaning of the individual experience of that particular community.

Meanwhile, McMillan and Schumacher (2014) explain an interview as a technique that uses open questions to gather information on participants' meaning, how participants perceive their world, and how they describe or make sense of the important events in their lives. Therefore, a semi-structured interview is usually one to two hours long and is conducted using a predetermined interview guide. Accordingly, the questions asked are prepared by the researcher as guidance. The interview schedule gives a description of the research, time of interview, and a list of questions set for the interviewee (see Addendum E). Once the data generated were interpreted, I discussed them with my research participants and supervisor to ensure that my interpretations were correctly represented (Creswell, 2013). I often reflected on the data collected and related it to my interpretation, checked for possible biases and I was cognisant of my role as a researcher.

Opdenakker (2006) explains that some positive effects of conducting interviews are that an interviewee can offer extra information to the interviewer, through for example body language and intonation, which can be added to the verbal answers given by the interviewee. There is also no significant time delay between the question and answer. The negative effects of conducting interviews may be asking an interviewee questions that are not relevant to his or her experience which can lead to disturbing interviewer effects. I used an interview protocol to guide my interviews with the participants and that helped me to steer clear of this pitfall, a teacher assisted with interpreting questions and answers between deaf learners and the researcher.

3.3.3.2 Qualitative observations

With permission of all the relevant participants and role players, I was an observer in Grade 6 classes during teaching and learning. Maree (2012) explains that a researcher becomes an objective participant by looking at the situation from afar, therefore no participation occurred. During the classroom observation, a checklist was used and field notes were kept. McMillan and Schumacher (2014) explain observation as a tool for a researcher to physically observe what happens naturally in the research area. It is an important research strategy for case studies, as it is an important technique for collecting data. It is used mostly with other kinds of qualitative studies, hence observation can be a lengthy process as the researcher has to be there in the field to conduct observation.

However, Creswell and Poth (2018) describe observation as a key technique for collecting information in qualitative research; it is the act of observing a singularity in a site situation using five senses, usually with a note-taking instrument, and documenting it for academic purposes. I used an observation checklist and field notes. Observations are based on the research aim and the research questions. The researcher as an observer may decide to watch the physical setting, participants, interactions, activities and conversation.

Waxman, Tharp, and Hilberg (2004) state that one of the advantages of observations are that an observer can remain at a given school for the agreed time or period and gain insight from an observation point of view. I experienced similar advantages, as I was able to remain at the school for the agreed period doing observation in different classes. The value of observation in this research was that it added reach, relevant data and offered an opportunity to observe real life situation of what happens in the classroom during teaching and learning with deaf learners.

3.3.3.3 Qualitative documents

Creswell (2014) states that documents are regarded as secondary data. During the investigation process in the current study, the researcher generated qualitative data from various documents. I investigated and read South African government policies, reports, newsletters and programmes regarding the teaching of sign language to deaf learners and reported the information gleaned in the literature review of my study. McMillan and Schumacher (2014) explain that organisations have a plethora

of approved documents and that they are created in a variety of ways, including scribbled notes of meetings, memos, progress articles, and ideas. These are informal documents that give a central perspective of the organisation and describe the organisation's goals and values, and how different individuals define these. Newsletters, services, booklets, flyers, pamphlets, school board papers, and public announcements are all examples of external communication strategies. In my study I was able to gain insightful information from the official government education documents that related to what I was investigating.

The advantages of reviewing documents were that, as a researcher, I was able to understand and comprehend what had been previously stated and approved, and what was currently being practised in relation to official documents pertaining to sign language.

3.4 DATA ANALYSIS

Data analysis should be conducted in a manner that reflects fairness, neutrality, and consistency (Maree, 2012). Qualitative data is often organised into themes or classifications that are similar (Di Fabio & Maree, 2013). Bernard and Ryan addressed the following in relation to Di Fabio and Maree (2013):

1.   identifying themes and subthemes
2.   analysing themes to a controllable level (i.e. assessing which themes are important in any tasks)
3.   building pyramids of themes or codebooks, and
4.   connecting themes into academic replicas are all part of text analysis (Di Fabio & Maree, 2013).

According to Creswell (2014, p. 196), researchers should view qualitative data analysis as following measures from the precise to the general and requiring numerous levels of analysis, Creswell (2014) furthermore suggests a seven-step analytic method and this method was used in the study to make this determination:

Step 1: Organise and prepare for data analysis. I organised and prepared for the data analysis by electronically transcribing the interviews and recording the minutes taken during the interviews with the research participants (deaf learners, hearing

parents, and teachers), and scanning materials used; in this instance South African government documents relating to Deaf Education. I thereafter catalogued and sorted the data into the different types of data collection used.

Step 2: I immersed myself in the data by reading it in detail. This step provided an opportunity to reflect on the meaning of the overall data and gave me a general sense of the information content gathered. I thereafter analysed the participants' ideas concerning the use and acquisition of sign language. This step enhanced the credibility of the data.

Step 3: Coding data. This step entails the process of organising the information by bracketing chunks (or image segments or text) I collected in my study of deaf learners, their hearing parents, and teachers. I labelled the process, categorising chunks using a term related to the language of the participants, in this case sign language. Hearing parents used spoken language and therefore both sign and spoken language were analysed.

Step 4: A definition of the environment was used in conjunction with coding to develop an interpretation of the participants' context, as well as themes or categories for analysis. I generated information about the participants, where they live, and the environment at the school for deaf learners.

Step 5: Descriptions and themes. The description and themes of the data were designated in the qualitative narrative. The narrative descriptions were used to convey the findings of the data analysis. As a researcher, I designed themes and subthemes into which to sort the information gathered after engagement with the participants. This study related to the findings of sign language acquisition delay as well as other effects discovered leading to this delay.

Step 6: Interpretation. Finally, I reviewed the study data and analysed the conclusions or outcomes. In this phase, I asked myself questions to reflect on the data analysis related to generating findings relating to the challenges discovered in sign language acquisition and use. This constituted my interpretation as well as a comparison with the data and existing theory or literature to confirm or negate the findings.

An advantage of using the stages of data analysis and interpretation is that they allowed me and participants to be part of the analysis. I analysed what was generated from participants and drew personal conclusions. As the researcher, I had to be aware of time constraints for coding and identifying. Therefore, appropriate planning was needed.

In addition, I have also made use of inclusion and exclusion criteria in obtaining information that was relevant to the study being investigated and excluded any information obtained from participants that was irrelevant to the study. This criterion assisted in assuring that unnecessary data is not included in the study.

3.5 THE ROLE OF THE RESEARCHER

According to Creswell (2014), a researcher's position is that of an inquirer who contributes to a participant's intensive and sustained experience. The qualitative research phase includes different methods, ethical considerations and personal circumstances. Researchers must always be considerate of these issues, and inquirers recognise reflexively their biases, beliefs, morals and individual backgrounds, including their history, culture, gender, and socioeconomic rank that inform their analysis during an investigation. Hence, obtaining admission to the investigation context and the ethical matters that might arise are also part of the researcher's role.

As a researcher, I was the primary data generation and analysis tool and took responsibility for my actions and behaviour when engaging with participants. As a teacher I have teaching experience and experience in dealing with diverse learners who must be accommodated with their various special needs and support in a mainstream school. Therefore, doing my research at a school for the Deaf I understood beforehand about respecting diversity and understanding the process by which deaf learners communicate. These skills assisted me during my classroom observation, taking of field notes without interrupting the teaching and learning process, and using a checklist. However, I am still a novice in understanding SASL completely and I was assisted by one of the teachers in the school during the interview process to interpret the questions for the learners. In the process, I also learnt patience in communicating with deaf learners. I had to adhere to the ethical guidelines of the university and had to remind myself constantly of my roles as

researcher, interviewer and observer. Afterwards, I had to review and reflect on my observations and the audio and video recordings with my supervisor.

I had to ensure that the participants' privacy and confidentiality were respected at all times by means of anonymity and pseudonyms, make participants feel valuable and comfortable, respect their time, establish trust between myself and the participants throughout the study, fully explain all appropriate ethical issues to participants, as well as consider their opinions and their contribution to the study. Participants were considered valuable and essential in regard to their contribution, sharing their personal experiences and rich information related to the study, and were treated as experts in the field of acquiring and using SASL.

I, as a researcher, had to remain aware of biases in regard to the data generation process and continuously reflect on information obtained from participants in order to analyse data assisted by my supervisor. I therefore requested debriefing discussions with my supervisor as a follow-to the data generation sessions.

3.6 QUALITY CRITERIA

Bentley (2016) refers to trustworthiness as the honesty of the data gathered from the research participants during the research process. This indicates the trust and confidence one can have towards the study and its findings. In addition, Hanie (2017) relates validity to trustworthiness in terms of the credibility, transferability, dependability, confirmability and authenticity of the study. Therefore, it is essential to discuss and explain how these criteria are met during the research and after the completion of the data analysis.

3.6.1 Credibility

According to De Vos, Strydom, Fouche, and Delport (2011), credibility is another alternative to internal authenticity to ensure that the topic of an investigation conducted was correctly represented and defined. As a technique for verifying results, a researcher should ask whether the interpretations of research participants and the researcher's reconstruction and representation match. According to Maree (2012), credibility is one of the considerations to consider, such as the importance of the outcomes and their credibility for participants and readers. Auditing the outcomes helps the investigator to assess the credibility of the results. This evaluation of

findings can be achieved by sending the document to other researchers or one's supervisor who were not involved in the analysis and requesting that they review it (Maree, 2012).

Hence, credibility includes explaining the process that led the researcher to explore the specific phenomenon, clarifying the study's basic theoretical orientation, and also reporting everything that affected the researcher's work. Data should be submitted to external evaluators for them to interpret the analyses and possibly develop alternative interpretations. Furthermore, participants or respondents should check and validate the first draft of the study report or a preliminary review. In this way, researchers can clarify to participants how the study information was presented, and participants can evaluate the data analysis and make any necessary comments (De Vos et al., 2011).

To ensure that I could relate to the sign language challenges encountered by deaf learners, I attended a South Sign Language Course 1 before commencing with the study to gain more experience on how sign language is learnt and its challenges. I also made contact with professionals in the field of Deaf Education who assisted me in my thinking and my planning of the research process. I also included member checking and debriefing meetings with my supervisor which allowed me as a researcher to confirm what I that I had analysed and interpreted participants' views and contributions as intended.

Bentley (2016) explains that triangulation can enhance the credibility of a study, making an assurance that the findings of the research study do not merely represent one method, source, or opinion. Yin (2016) meanwhile refers to triangulation as a principle not yet captured by a formulaic procedure; it represents a second sub choice. Furthermore, the original principle is generated from navigation, where the intersection of the three different reference points is utilised to calculate the exact location of an object. The principle, therefore, refers to the aim of finding at least three different ways to validate or corroborate a process, a piece of evidence, or a finding.

I have made use of triangulation by implementing and comparing different procedures of data generation and documentation, using interviews, observations

and field notes. I have noted similarities in participants' (deaf learners, hearing parents and teachers) statements and views and constantly consulted my supervisor to express my views. Moreover, this also assisted in examining evidence from sources and using such evidence to create a coherent justification for themes.

3.6.2 Transferability

When a researcher asks if the study's results can be transferred from one circumstance or case to another, De Vos et al. (2011) suggest this as an alternative to external generalisability or validity, where the investigator or researcher is responsible for demonstrating the applicability of one set of findings to another setting rests, rather than the initial inquiry. Transferability is the process of exporting and generalising results to a different situation (Lincoln & Guba, 1985). To assess whether qualitative outcomes are indeed transferable to other contexts, researchers must establish the characteristics of the study; thus, it is only by defining the research features that researchers can assess whether qualitative outcomes are indeed transferable to other contexts (Maree, 2012).

The aim of data transferability was adhered to by presenting an in-depth, detailed description of the study and the phenomenon observed. The data were discussed in a detailed manner and the participants' experiences were presented to enhance the transferability of my study. Hence, an external researcher could use the data to relate to similar contexts to those referred to in the findings of the research.

3.6.3 Dependability

The degree of control in a study is influenced by the degree of dependability, which is described as the stability and accuracy of the research process and methods over time (Bornman, LeCompte & Goetz, 1986). This improves the credibility of the research process, and the researcher should keep an eye on the quality of data recording and transcription, reporting, observation processes and interviews (Maree, 2013. Bentley (2016) describes dependability as referring to the extent to which the research procedure is logical, well documented and traceable. It is the process that can be followed throughout the research documentation of the research process, research problem, data generation, documentation, and analysis and the report writing process.

In this research, I documented the research procedure in detail as a way to ensure the dependability of the study findings. All recordings were provided and how the research was conducted indicated. This entailed voice/video recording of interviews and field notes made during classroom observation indicating what I observed, heard and thought while conducting the research.

3.6.4 Confirmability

According to De Vos et al. (2011), confirmability captures the conventional definition of objectivity. It thus refers to the objectivity of the data and the absence of testing errors. Findings can be considered confirmable if they are obtained from the participants and the research conditions rather than the researcher's (subjective) opinion (Lincoln & Guba, 1985). The research needs to be verifiable and confirmable and thus not the researcher's own opinion and fabrications of data. In addition, the findings of the study need to be confirmed by another study, and findings regarding data generation and analysis of the research need to be consistent and repeatable (Bentley, 2016).

In an attempt to confirm this study, I made use of field notes and an audit trail, and I also documented the procedure for thematic analysis when organising and categorising the data I obtained in the field. I also documented my choices on data generation and investigation in the research. Reflexive research and member checking input may enhance the confirmability of the research.

3.6.5 Authenticity

Seale (2000) describes authenticity as related to fairness where participants' different realities are not the subjective opinion of the researcher. McMillan and Schumacher (2014) state that authenticity refers to the degree to which participants' voices are heard.

As a researcher, I listened to all my participants' voices and noted all the essential aspects to finding answers related to the research topic. I made detailed descriptions on how participants viewed and understood deafness and sign language challenges. Throughout the research, I recorded and obtained all participants' true voices while acquiring their insider opinion and documenting data gathered in the process. Documenting and recording assisted me in revising and revisiting the data and the

findings to authenticate the research. Ongoing monitoring of data documentation was done after every session in which I engaged with participants

3.7 ETHICAL CONSIDERATIONS

Ethical practices are vital to consider for guiding the study. The research design and study have to adhere to the related legislation and ethical guidelines (Maree, 2016). Ethics is also defined as a method, procedure or perspective for deciding how to act and for analysing complex problems and issues (Gajjar, 2013). There are several reasons why it is vital to adhere to ethical norms in research, and one of those reasons is to promote the aims of the research such as knowledge, truth and avoidance of error (Gajjar, 2013).

Knowledgeable participants, consent forms, secrecy, confidentiality, prevention of harm, destruction and detriment, as well as accessibility to outcomes, were all considered in the study. An approval letter (see addendum A) was obtained from the Government Department of Education (GDE), the principal of the school (see addendum B), parents of learners, and teachers (see addendum C & D). If the participants agreed to participate in the study, adult participants were given consent forms while the deaf learners were given assent forms to sign. None of the participants was forced to be part of the study. Subsequently, permission was granted by all participants and pseudonyms were assigned to each of them.

According to American Psychological Association (APA), there are universal ethical values that apply to thesis writing. Benevolence and non-maleficence are general principles, as are responsibility and fidelity, honesty, fairness, and respect for participants' human rights and self-respect (Theron, 2012). The Ethics Committee of the University of Pretoria approval (EP 19/08/01) in Addendum A and GDE approval letter in Addendum B are attached to the end of this document, ensuring that the investigation adhered to research ethics requirements.

The APA Ethics Code requires psychologists to release their data to researchers who want to verify their conclusions, provided that participants' confidentiality can be protected and as long as legal rights concerning proprietary data do not preclude their release. However, the code also notes that psychologists who request data in

these circumstances can only use the shared data for reanalysis; for any other use, they must obtain prior written permission (Gajjar, 2013).

3.8 SUMMARY

In this chapter, I have stated the research processes and methodology applied in this study, and also the paradigmatic choices made and the research design utilised and implemented. I also discussed in the manner in which I generated, documented and evaluated the data. In addition, I indicated the qualitative approach based on an interpretivism paradigm which was used. I then explained how I endeavoured to meet the quality criteria for this study and stated my role as a researcher. Lastly, ethical guidelines were stated and explained. The findings and results of the analysis are presented in Chapter 4, organised by the identified themes and sub-themes which were utilised in the process of data analysis.

CHAPTER 4

PRESENTATION AND DISCUSSION OF THE FINDINGS

4.1   INTRODUCTION

In this chapter, firstly, the data collection processes and analysis strategies are discussed in relation with the engagement with and information of participants. I then present and discuss the findings of my study using inductive thematic analysis. The findings are presented by means of the themes and sub-themes that emerged from the data, which were collected through semi-structured interviews, audio/video recordings with their transcripts, classroom lesson observation and notes generated in the field.

4.2   DATA COLLECTION PROCESSES

Six hearing parents and their deaf children (12 to 14 years) were interviewed in this study. Six experienced Intermediate Phase teachers of these learners were also interviewed. The interviews were conducted within a two months' time span, all participants met the criteria stipulated in Chapter 3 one and none of the participants withdrew from the study. I also observed three lessons in different subjects, during which I used an observation checklist. Before the commencement of each interview, the research study was thoroughly explained to the different groupings of participants in detail; they were made aware of the audio-/video recording of the interviews.

Participants were given a chance to ask questions for clarity or to raise any concerns. The interviews were informal which allowed both participants and the researcher to be authentic and comfortable in their interaction. All the interviews were transcribed verbatim from the audio/video recordings. Throughout the data collection process, the researcher adhered to all the ethical considerations and requirements to ensure the quality of the study and the confidentiality of participants. Pseudonyms were used to protect participants' identities and any personal information related to them.

4.3   DATA ANALYSIS STRATEGIES

The following strategies were used to analyse the data collected:

- Familiarisation with the data

- Generating initial codes

- Organising of codes (combine similar codes)

- Searching for themes

- Reviewing themes

- Defining and naming themes

4.4 INFORMATION REGARDING PARTICIPANTS

The information regarding the participants is given in Table 4.1 below as evidence of meeting the criteria. Pseudonyms were created and used for each group of participants. Participants were labelled using letters of the alphabet. For example, when quoting a participant from the teachers' group I referred to Teacher A (TA) and when referring to a hearing parent I used Hearing Parent A (HP-A) and when referring to a learner s/he is indicated as Learner A (LA). This method was implemented throughout the interviews as a way of identification.

Table 4.1: Background information of the participants

Participant group	Gender	Age	Abbreviation used	Experience
Teachers - T				**Years of teaching**
Teacher A	Female	Early 50s	TA	30
Teacher B	Male	Early 40s	TB	15
Teacher C	Female	Early 30s	TC	8
Teacher D	Female	Late 30s	TD	10
Teacher E	Female	Late 40s	TE	23
Teacher F	Female	Early 30s	TF	5
Parents - H				**N/A**
Parent-A	Female	Late 40s	HP-A	
Parent-B	Female	Late 40s	HP-B	
Parent-C	Female	Late 30s	HP-C	
Parent-D	Female	Late 60's	HP-D	
Parent-E	Female	Late 30s	HP-E	
Parent-F	Female	Late 50s	HP-F	
Learners - L				**Grade**
Learner A	Male	12 years	LA	6
Learner B	Female	13 years	LB	6
Learner C	Female	13 years	LC	6
Learner E	Female	13 years	LD	6
Learner D	Female	14 years	LE	6
Learners F	Male	14 years	LF	6

4.5   DISCUSSION OF THEMES

The primary objective was first captured in themes 1 and 2, this subsequent sections provide an in-depth explanation of the themes and sub-themes that emerged from the data collected from the participants. Three lesson observations are indicated as (OBS) and field notes indicated as (FN). These were incorporated and triangulated within the themes presented. The observation schedule below guided how and when lessons were observed. The inclusion and exclusion criteria were used to determine the data relevant to the study, thus ensuring that the information included answered the research questions and that information that was not relevant was excluded.

Table 4.2: Observation schedule

SITE: School for the Deaf Grade 6					
Date	Grade	Teacher	No. of learners	Duration of lesson	Source of data used
Lesson taught: Describing materials (NS/Tech)					
18/09/2020	6a	TA	9	11:00–11:20	Lesson observation checklist (OBS) Field notes (FN)
Lesson taught: Addition (Mathematics)					
18/09/2020	6b	TB	7	11:20–11:40	
Lesson taught: Ancient African-Egypt Society (SS)					
18/09/2020	6c	TC	6	11:40–12:15	

Table 4.3: Outline of themes and sub-themes

Section 1	
Theme 1	**Sub-themes**
Hearing parents' journey of discovery regarding their children's deafness	1.1 The age of discovery of a child's deafness 1.2 Seeking health professionals' assistance. 1.3 Denial of deafness
Theme 2	**Sub-themes**
Factors influencing the acquisition of South African sign language (SASL)	2.1 Language and communication barriers. 2.2 Family background of deafness and SASL. 2.3 Social interaction using SASL.
Theme 3	**Sub-themes**
Impact of hearing parents' support of their deaf children's use and acquisition of SASL at home	3.1 Parents training in SASL by the school for the deaf 3.2 Assisting deaf children with homework 3.3 Television programmes and interpretation support given by hearing parents
Section 2	
Theme 4	**Sub-themes**
Barriers to effective learning of SASL	4.1 Teaching deaf learners without an SASL background 4.2 Teachers' barriers when teaching SASL.
Theme 5	**Sub-themes**
strategies used to support deaf learners to acquire SASL	5.1 The use of visuals and technological devices in teaching deaf learners 5.2 Providing extra bridging classes 5.3 Offering expanded opportunities and one-on-one sessions 5.4 The use of total communication according to a child's level of understanding

4.5.1 Theme 1: Hearing parents' journey of discovery regarding their children's deafness

The first theme explores the deafness discovery and diagnosis journey experienced by the deaf children's hearing parents. This is the first step for hearing parents in supporting their deaf children and it involves various difficulties that the family of the deaf child encounter. The sub-themes presented below give an understanding of this journey and serve as evidence for what was described by Isaacson (2000) in Chapter 2 of this study. Isaacson indicates that the early diagnosis of and intervention in a deaf child has a positive effect on learning sign language at an early age. The earlier the intervention and immediate support provided to the child the better (Isaacson, 2000). The sub-themes for Theme 1 are graphically represented in Figure 4.1. and Table 4.4 indicates the inclusion and exclusion criteria used for the sub-themes.
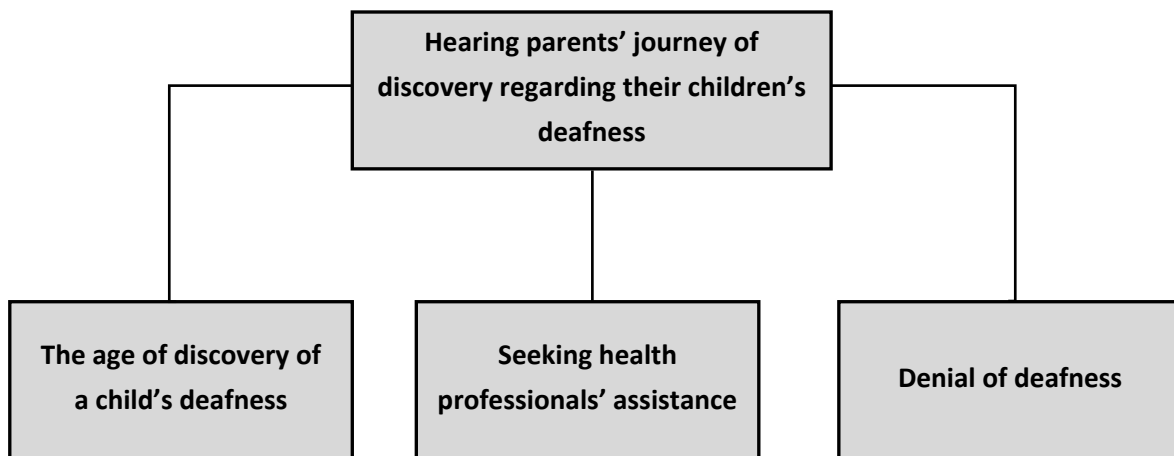
Figure 4.1: Graphical representation of theme 1 and its sub-themes

Table 4.4: Inclusion and exclusion criteria for theme 1 with its sub-themes

Hearing parents' journey of discovery regarding their children's deafness		
Sub-themes	**Inclusion criteria**	**Exclusion criteria**
1.1 The age of discovery of a child's deafness	Information on age discovery of deafness to the child	Information not relevant to age of discovery
1.2 Seeking health professionals' assistance	Information related to the diagnosis of deafness	Information not relevant to the diagnosis of deafness
1.3 Denial of deafness	Information with regard to denial of deafness	Information not contributing to the denial of deafness

4.5.1.1 Sub-theme 1.1. The age of discovery of a child's deafness

Hearing parents seldom discover that a child is deaf when the child is born. As stated in chapter 2 page 53 that most hearing parents discover their child's deafness at a later stage when the child is expected to be talking and sounding out basic words, as well as engaging in communication with parents and the family as a whole. As indicated in Table 4.4, the inclusion criteria were mainly based on the specific age indicated by hearing parents during interviews, most of whom indicated diagnosis at a late age.

HP-B (Hearing parent-B) stated:

> I discovered when she was 3 years that she doesn't talk, she wasn't responding but focusing on her toys, when she is looking somewhere when you call, shout or scream at her she wouldn't respond but only on her toys.

HP-D (Hearing parent- D) also said:

> At two years I discovered that she is deaf but she would call Mama, I then realised that in some words, she doesn't respond.

HP-E (Hearing parent -E) indicated a similar experience;

> … it is because she was already 3 years and she was not talking and not responding.

The above evidence confirms that hearing parents do not generally discover that their child is deaf at birth, the only exceptions being when a child's hearing is screened by the hospital. As explained by Kumar (2015) in chapter 1 page one that in countries such as India, China and South Africa, the Universal Neonatal Hearing Screening (UNHS), a tool or an instrument used to screen children's hearing from an early age, has not been implemented well compared to other countries. Parents tend to wait until at a later age to be convinced that a child has a hearing problem that needs to be attended to after the child has been screened. Therefore prior to the diagnosis there is limited interaction or no communication between the mother and the child. Thus, there is no sign language development from an early age. Early

onset of deafness is frustrating for the child and has a profound negative impact on the development of spoken language skills as stated by Spencer and Marschark (2010).

Therefore, early support in sign language acquisition is limited and does not happen in most cases (Isaacson, 2000). As indicated by Spencer and Marschark (2010), that children who are identified to be deaf early, are more likely to receive early intervention, and this has been found to predict better language development. Le Roux and Vinck (2015) agree that deaf children in South Africa are usually diagnosed as deaf at a late stage which could have negative consequences for the acquisition of sign language at a later age. As stated in chapter 2 page 16 that according to DeafSA (2009), in South Africa, deafness is often diagnosed only when a child is between the ages of four and eight

4.5.1.2 Sub-theme 1.2: Seeking health professionals' assistance

This sub-theme serves as a follow-up to the way hearing parents react once they have discovered their child is deaf. The apparent next step for hearing parents is to seek health professionals' assistance in order to confirm the discovery of deafness in their child and whether there are accompanying disabilities. The hearing parents in the study indicated various specialist consultations, such as visits to the audiologist, speech therapist and further health assessments, for example brain scans, Computer Tomography (CT) scans and Magnetic Resonance Imaging (MRI)s.

One of the hearing parents indicated that her child became ill when he was six months' old and as a result of pneumococcal meningitis he became completely deaf. To confirm whether her child was deaf she sought out further opinions at different hospitals from various specialists in order (HP-A). During this phase hearing parents hope to obtain the good news that their child is not deaf. The following hearing parents explained the steps they took in seeking health assistance.

HP-D commented;

> I took her to Ga Rankuwa when she was 2 years for speech therapy once a week, so from 2 years to 5 years, there were no changes. So her problem is that they could not drug her, the drugging medication that was used so that the doctors could plug some wires on her head so that they can check what

was the problem; those drugs were not drugging her. I think that she took after me because even myself any injection does not drug me or make any changes in my body such as vaccines. So they ended up not being able to check her problem (HP-D).

While HPF said: "*I took her to the therapist and audiologist at the University of Pretoria when she was 3 years old.*"

And HP-B said

> I took her to the clinic and they gave me a letter to take her to hospital and then at hospital they checked her and discovered that she has nuclear ear infection, then she started attending her therapy session from there.

These above statements agree with what Le Roux and Vinck (2015) have stated that, the South African healthcare screening services offered in public and private hospitals indicate that less than 10% of the one million babies born each year have their hearing tested, which implies that a child born deaf could very likely miss out on necessary early auditory stimulation.

A survey conducted in 2008 found that about 85% of the South African population had access to the fewer than 7.5% of hospitals that provide infant hearing screening facilities. A marginally better disparity was provided by private hospitals, of which 53% had units providing universal newborn screening (Le Roux & Vinck, 2015). As a result, the average age of deaf diagnosis in South Africa has been estimated to be between 23 and 44 months (Le Roux & Vinck, 2015).

As participants explained the challenges they experienced in their next step towards assisting their children in confirming their deafness, they indicated that this needs to be addressed in all public and private health facilities, thus assuring that all children are screened immediately after birth. This can give hearing parents an advantage in knowing immediately that they have given birth to a deaf child and they would be able to seek further information with regard to deafness and sign language acquisition while the child is still an infant.

4.5.1.3 Sub-theme 1.3: Denial of deafness

Denial is to be expected with hearing parents after the discovery and diagnosis of deafness in their children, as giving birth to a normal child is the dream of every parent. Once a child is born deaf those dreams that parents have for their children are shattered. This results in much frustration, anger, stress and disbelief, thus hearing parents need appropriate counselling. This process has an impact on sign language acquisition as hearing parents need to adapt to the diagnosis and gather necessary information about deafness and sign language acquisition and learning.

HP-A said:

> Well... emotionally we were devastated uhm… Because, first is that you are in denial, because how could this happen to me, and this can't be, all these emotional fluctuations and uhm I told my husband that let me take him for a second opinion. and then I went to hospital with my son for the second opinion just to make sure. And then it was the same diagnose "sorry your child is deaf", so I said no way this can't be true at all, So I took him for the third opinion and then I have to start to accept.

And HP-B said: "*… me I was not sad I told myself it is God's will but her father was not ok at all by this situation*".

In support of the above excerpts from interviews conducted with hearing parents, Stegman (2016) states that hearing parents of deaf children enter the unfamiliar world of deafness, mostly having little or no prior contact with deaf people. Their lives are taken over by a new reality. Jenny et al. (2016) add that raising a deaf child can be experienced as an uphill battle filled with confusion, effort and exhaustion. In support of this Humphries et al. (2019) found that 96% of deaf children are born to hearing parents who are unprepared to raise a deaf child.

4.5.2   Theme 2: Factors influencing the acquisition of South African Sign Language (SASL).

The second theme presents the factors influencing deaf children's acquisition of SASL as stated in Table 4.3. This table also lists the sub-themes. This theme aims to explain in detail the factors that deaf learners encounter in the process of sign language acquisition. These factors are regarded as the main causes and

hindrances in sign language acquisition challenge. Figure 4.2 gives a graphical representation of theme 2 with its sub-themes, and Table 4.5 presents the inclusion and exclusion criteria for theme 2.
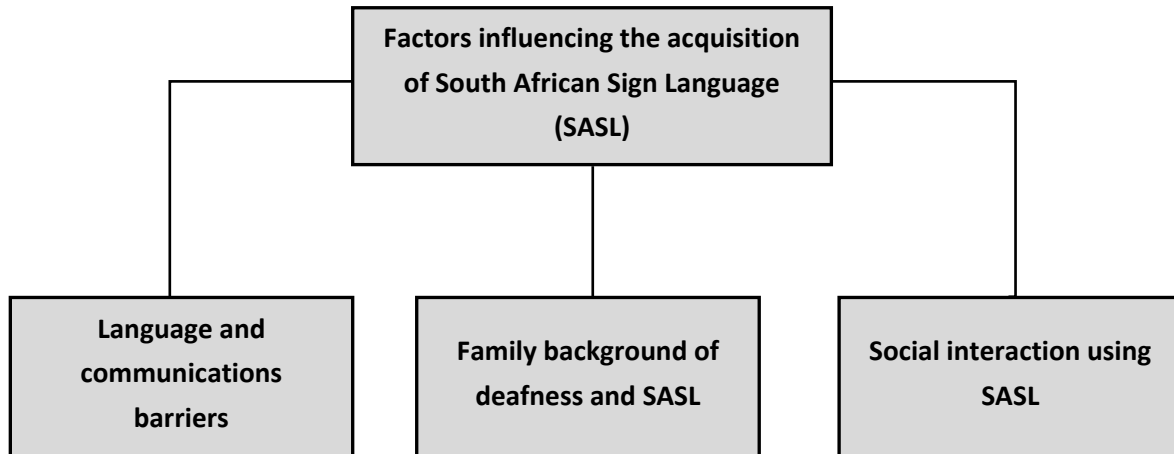
Figure 4.2: Graphical representation of theme 2 and its sub-themes

Table 4.5: Inclusion and exclusion criteria for theme 2 with its sub-themes

Factors influencing the acquisition of South African sign language (SASL)		
Sub-themes	**Inclusion criteria**	**Exclusion criteria**
2.1 Language and communications barriers	Factors that contribute to language and communication barrier	Factors that do not refer to language and communication barrier
2.2 Family background of deafness and SASL	Information on family background to deafness and SASL	Information not related to family background with deafness and SASL
2.3 Social interaction using SASL	Information based on social interaction using SASL	Information that does not involve social interaction using SASL

4.5.2.1 Sub-theme 2.1: Language and communication barriers

As mentioned in Table 4.5, language and communication barriers are one of the challenges to deaf children and their hearing parents. Communication begins at home when a child is born when the mother interacts with the child from birth as do the rest of the family. In contrast, the situation can differ when it concerns deaf children. One reason is that the majority of deaf children are born to hearing parents who have no background in SASL. This statement is supported by Brinkley (2011), who states that only a small percentage of deaf children are born to deaf parents, with the majority of deaf babies being born to hearing parents who are non-native signers and who use spoken language. Flaherty (2015) agrees that a deaf child who

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needs to learn sign language at home is in many instances denied access to it at a young age due to their hearing parents' inability to communicate in sign language. Hearing parents explained how they communicate with their deaf children.

(HP-D) said:

> … at home we normally use Sesotho although I try to speak to her using sign language and she sometimes writes down if she sees that I don't understand, since as school they were learning English and sign language she couldn't understand.

The HP-D's child commented as follows:

> Q: Which language do you prefer to use?
> A: At home natural sign language and Sesotho (LA).

HP-E had a similar experience:

> … we were talking normal and using hands where we can, she can understand when you are talking to her and when we are talking and using hands, she is able to figure out what you are trying to say. She does lip read and looks at your mouth and also watches your movements and your body language.

While HP-E's child, Learner D (LD) said that "*… I use Sepedi and natural sign language at home"* [interpreted].

And Learner B indicated:

> Q: Which language do you use at home?
> A: Ndebele [interpreted].

These comments from hearing parents and their deaf children confirm that deaf children have limited language development and communication with their hearing parents, as hearing parents in most cases learn sign language at the same time as their deaf children. This is supported by Woll (2013)'; because hearing parents are not native signers of sign language this situation leads to a delay in sign language acquisition. The acquisition of sign language is a critical aspect to ensure hearing

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parents are able to understand their child and to understand the difficulties associated with learning sign language. In addition, hearing parents are mostly fluent in and understand their own spoken language and thus they prefer using spoken language to communicate with their deaf child or use a bilingual approach, mixing two languages at the same time.

The frustrations that hearing parents encounter when learning sign language is sometimes too much for them and they then rather opt for assistive devices and speech therapy for their children, hoping it will help them to hear and talk instead of using sign language.

HP-B said based on assistance:

> Yes they gave her hearing aids, when she was 3 years old she started attending speech therapy and then at 4 years that is when they gave her hearing aids.

And HP-A indicated:

> When he was 8 months all out of the blue just all of a sudden just all out of the blue, we got a call from this professor from Zuid Afrikaans hospital and he told us that he is doing cochlear implant, and we didn't know and so we said Ok let's just go and find the professor we don't even know what he looks like but let us just go and hear what this guy has to say. So we went there and he explained to us everything how it works, how it looks like, how expensive it is. So we said let us do our duty as parents let us do our duty as human beings, if I can give my child a second chance to hear then let me do that, and that is why he has got a bilateral cochlear implant.

In the process of using all means possible for communication to occur, Fitzpatrick et al. (2013) state that some hearing parents are uncomfortable switching to their deaf children's primary mode of communication (sign language). Instead, they tend to use other approaches such as having an assistive device for their child and using total communication, depending on the child's needs and abilities. These are the kinds of support they prefer to use in order for their deaf children to be able to hear and

communicate. Moreover, they use natural sign language instead of SASL, as HP-B indicated:

> I was using signs but that time they haven't trained us so I was creating my own natural sign language when I talk to her and she would understand (HP-B).

HP-C shared a similar experience:

> We generally just use hands although she can understand isiZulu a bit she can sound out like Gogo, Mama, but I also write it down in Zulu for her she would read and understand.

Another hearing parent (HP-E) also indicated:

> We were talking normal and using hands where we can, she can understand when you are talking to her

HP-D shared that at home they normally use Sesotho, although she does try to speak to her child using sign language and the child sometimes writes things down if she sees that her parents does not understand what is being communicated by the child. At school they are learning English and sign language, therefore the child cannot understand Sesotho but lately the child recognises words like "Hello" by looking at her hearing parent's lips and responding in sign language.

> Q: What language do you use at home?
> A: Learner B (LB) indicated: At home Sepedi and natural sign language [interpreted].

Bilingual and total communication approaches are used as means of communication between hearing parents and their deaf children. These approaches have disadvantages for the use, acquisition and development of a complete sign language at home.

4.5.2.2 Sub-theme 2.2: Family background of deafness and SASL

The family plays a significant role in raising a child and offering support for their growth and development (Moeller et al. 2016). When a child is born he or she needs

to be accepted by the members of a family, but this is a challenge when the deaf child is born into a family that has limited knowledge of deafness and SASL. If the family has a history of a deaf family member, it leads to an easier understanding of the disability. In most instances, there is no history of deafness in the family. While one hearing parent explained that they do have a deaf family member in her family others hearing parents indicated no history of deafness within the family.

HP-F "*Yes we do have a deaf family member.*"

And hearing parent A (HP-A),

Q: "*But is there any history maybe in the family on your side or of your hubby?*"

A: "*No!*"

Q: "*so it was the first one with the boy?*"

A: "*Yes, he was the first one in the whole family that is deaf.*"

HP-B: "*No there is no family history she's the first one in the family to be deaf.*"

HP-C indicated a similar situation: "*In our family we have never had a deaf person.*"

In terms of communication HP-F;

> Q: "How is the rest of the family communicating with your child?"
> A: "they try to communicate with her in natural sign language and Setswana."

The hearing parents were asked about the effect deafness has on the family and receiving support. HP-D indicated as follows:

> In my family there was no problem, I had a lot of support. So my mom was not well. when I got a child and she died when my child was 10 months. Then my father is the one who gave me so much support in a way that even my child is a free spirit child She is bubbly and does not give me any issues and she doesn't isolate herself. Only me as a parent who was stressed that my child is deaf and so on but she was ok doing everything normal except being deaf.

Referring to communication, HP-D commented:

> She gets angry if we are communicating and talking, so she will look at me to explain to her what we are talking so that when we laugh she doesn't think that we laughing at her. So she looks at me and I have to explain the communication.

HP-E mentioned that "*we were affected and decided to take her to the school for the deaf.*"

Referring to communication by hearing family members to the deaf child; HP-E said: "*they use Sepedi and hands also body language.*"

An important factor in sign language acquisition is that in many instances it is the first-time hearing parents have experienced deafness and SASL. They have limited or no family history of deafness, as indicated in sub-theme 2.2. Hearing parents learn and comprehend deafness and SASL along with their deaf children. This unfortunate situation hinders deaf children in learning sign language, as hearing parents have to embark on a new journey they have never thought of and have to change their mindsets regarding their deaf children and sign language acquisition. The majority of hearing parents learn sign language at the same time as their deaf children while gaining experience, and the learning process is not clearly delineated. This is supported by Stegman (2016) who states that hearing parents of deaf children enters the unfamiliar world of deafness mostly having little or no prior contact with deaf people, and their lives are taken over completely by a new reality.

De Clerck and Paul (2016) agrees with this, and adds that one of the reasons for the difficulty experienced is communication breakdowns caused by the fact that the language spoken at home varies from the language spoken by the deaf child, which could result in a sign language barrier (De Clerck & Paul, 2016). One of the approaches that hearing parents subsequently adopt is the use of direct conversation with their children instead of using sign language, which could cause frustration for the deaf child (Brinkley, 2011).

From these responses, it may be concluded that families of the deaf children are unable to engage with deaf children using SASL and that they instead use spoken

language with natural signs that the family has created to accommodate the child. There is generally no SASL acquisition at home for deaf children in their hearing families.

4.5.2.3 Sub-theme 2.3: Social interaction using SASL

The theoretical framework and lens chosen to examine this study was Vygotsky's socio-cultural theory. This theory supports the idea that social interaction is one of the approaches that play a vital role in sign language acquisition by deaf children (Woolfolk, 2010). The more children interact with other people, the more chances they have of learning new signs and new words and thus enhancing sign language development. Social interaction is more difficult for deaf children as they remain the minority in using sign language and grow up in a hearing society that does not understand SASL (Vygotsky, 1993). The rejection, discrimination against and barriers to sign language presented by the hearing society hinder deaf children from socialising with them. Some deaf learners prefer not to have hearing friends so as to avoid social interaction. Hearing parents indicated below:

> No she does not have hearing friends; we are not people's people, we always indoors, only when there is a family gathering she tries to mingle and talk with the family children (HP-F).
>
> They didn't have much time with her because most of the time she was at school, but when she is back they welcomed her in a good manner, problem are neighbours they don't treat her right. they make her a joke. Na ... not now because she no longer associates herself with them, she is always indoors watching TV because she knows how they used to mistreat her (HP-E).

HP-E's child also indicated not having hearing friends when I interviewed her:

Learner D (LD):

> Q: Do you have hearing friends and how do you communicate with them?
> A: No I don't have one [interpreted].

And Learner E also responded:

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Q: Do you have hearing friends and how do you communicate with them?

A: No [interpreted]

Some of the deaf learners indicated that in order to socialise with the hearing world and have hearing friends, they use natural signs, spoken language and lip reading when engaging with their hearing friends.

Q: Do you have hearing friends and how do you communicate with them?

A: Yes, I use natural signs that they can understand and sometimes point at things [interpreted] [LA].

Q: Do you have hearing friends and how do you communicate with them?

A: Yes I have and they use hearing sign [interpreted] [LB].

It became evident from the data collected regarding hearing parents and their deaf children that there is no proper social interaction using SASL out of the school context. To accommodate their hearing friends, deaf children have to be creative in using natural signs and lip reading when socialising with them as they do not understand SASL. Hence, SASL acquisition and development are negatively affected by not being able to interact socially with peers using SASL. However, I observed (OBS 1) on school premises and in the classroom is that deaf learners socialise in SASL and they seemed to enjoy socialising with one another using SASL, the language that is familiar to them.

4.5.3 Theme 3: Hearing parents' support of their deaf children's use and acquisition of SASL at home

This third theme emerged from the inductive thematic data analysis in relation to what was investigated in the research. Hearing parents are responsible for raising their deaf children, therefore they are the first people in the child's life to have an impact on the acquisition and development of sign language. As discussed by Vygotsky regarding the zone of proximal development, children learn and acquire language through the support and scaffolding provided by their parents (Daniels, 2003). Hence, this theme with its sub-themes discuss the impact hearing parents have on their child's sign language acquisition and development at home. Figure 4.3 illustrates theme 3 with its sub-themes and Table 4.6 below explains the inclusion and exclusion criteria used.

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                    ┌──────────────────────────────┐
                    │ Hearing parents' support of   │
                    │ their deaf children's use and │
                    │   acquisition of SASL at home │
                    └──────────────────────────────┘
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Parents' training in SASL by the school for the Deaf

Assisting deaf children with homework

Television programmes and interpretation support given by hearing parents
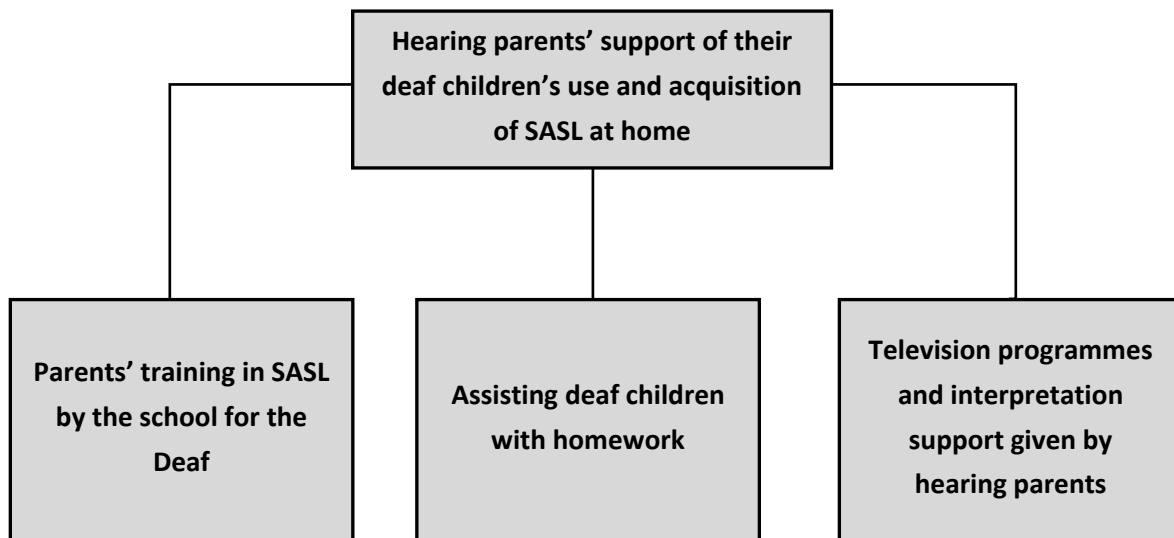
Figure 4.3: Graphical representation of theme 3 and its sub-themes

Table 4.6: Inclusion and exclusion criteria for theme 3 with its sub-themes

Hearing parents' support of their children's use and acquisition of SASL at home		
Sub-themes	Inclusion criteria	Exclusion criteria
3.1 Parents' training in SASL by the school for the Deaf	Information on parents' training in SASL	Excluded information not relevant to parents' training
3.2 Assisting deaf children with homework	Any information relevant to homework support	Information not relevant to homework
3.3 Television programmes and interpretation support given by hearing parents	Support provided by hearing parents based on television programmes and interpretation	Information not relevant to support on television programmes and interpretation

4.5.3.1 Sub-theme 3.1: Parents' training in SASL by the school for the Deaf

This sub-theme, as stated in Table 4.6, relates to parents training in SASL by the school for the Deaf. Parental support is offered by schools for the Deaf in assisting hearing parents to be trained and to learn SASL, so that they will be able to support their deaf children at home. Some hearing parents do commit themselves to learning SASL and confirmed that they attended SASL training.

HP-B:

Q: Did you receive any support in learning and understanding sign language?

A: Yes, we were attending a training at school every Friday when she started at crèche when she was 6 years we attended a training.

Also HP-E:

Q: Did you receive any support in learning and understanding sign language at school?"

A: Yes, they used to invite us in their hall and show us video and teach us sign language some words I know in sign language I have learned them from there, showing us videos giving us the discs for free so that when we arrive at home we can practise.

However, some hearing parents had not attended SASL training.

HP-C indicated:

Q: Did you receive any support in learning and understanding sign language?

A: Problem is she started staying with her aunt so she was the one supporting her even at school in a way that when she is there they use sign language when talking, so when she came to stay with me it was hard but I write and sign some of the things to her. And she also understands English.

HP-F commented on the support she had been offered and had rejected:

Q: Did you receive any support in learning and understanding sign language?

A: Yes, from school they sent us from time to time to the University of Pretoria and they advised us to attend sign language classes on Fridays meaning the support was there just That we did not attend. You know when she was young we did not see a need, only now we realise we were supposed to take those lessons and be able to engage with her in a proper sign language like now at the school they no longer do those lessons but if they bring them back we will indeed go and attend. Her sister assists in interpreting but we also see a need of doing and learning sign language because now we are disadvantaging her a lot in using sign language.

The study results indicate that hearing parents who attended SASL training are much better equipped to understand SASL. They at least know the basics of sign language and are able to support their deaf children compared to those who do not attend the training. Deaf children whose parents do not attend the SASL training have less support from their hearing parents in sign language acquisition at home. One hearing parent suggested that she would appreciate if SASL training could be ongoing so that parents could become fluent in SASL and be able to use sign language at home with their deaf children at home at all times.

> One opinion I have is that at schools they need to prolong the sessions offered to parents in learning sign language like give them more time to learn more training (HP-D).

4.5.3.2 Sub-theme 3.2-Assisting deaf children with homework

Deaf children are supposed to be assisted by their hearing parents in doing their homework. Evidence on how hearing parents support their deaf children was obtained from the data collected. Hearing parents shared the following information:

> It was very difficult when I had to assist her with homework, I didn't know how explain to her, and that time she couldn't even write unlike now when she can write in English (HP-B).

HP-D had this to say about support:

> Yes, if she has homework I need to read it first and if I see that I know them I will write for her in a piece of paper and let her read to understand and copy answers to her book.

Teacher B (TB) said the following about the issue of parental support at home:

> Parental involvement is a barrier because parents cannot help their children with their homework and other school projects. Also if a deaf learner is staying with the grandmother/father who is illiterate it becomes a challenge. The deaf child finds him/herself at home with all hearing people and no one is willing to learn his/her language [he/she] ends up lonely for the rest of his/her life.

If hearing parents are not able to use SASL it disadvantages deaf children, because they cannot rely on their parents for homework assistance where SASL is used. As a result of the sign language barrier, parents prefer to write the answer down for the child instead of explaining the homework. This impacts negatively on the child's academic development as the child does not receive the necessary guidance to come to an answer him/herself.

4.5.3.3 Sub-theme 3.3: Television programmes and interpretation support given by hearing parents

This final sub-theme of theme 3 explains how hearing parents support their deaf children when watching television programmes, as most of programmes do not accommodate sign language interpretation for the deaf and do not provide an interpreter. As discussed by Brinkley (2011), media has a vital role to play in learning and acquiring a language, but deaf children encounter exclusion unless a programme provides subtitles or use pictorial instructions. Below are some comments made by hearing parents on how they accommodate their deaf children in the process of television programme interpretation:

> Q: Are there any favourite channels she enjoys watching?
> A: Oh yes she enjoys more the one for doing recipes because it is practical and the family channel such as how things are made like starting a car from scratch etc. She also enjoys the ones with subtitles. (HP-F).

HP-D commented: "*She enjoys watching TV especially Indian movies because they write subtitles*".

> Q: OK so with TV shows she enjoys the ones with sub\ titles?
> A: Yes, so that she could read and if they do not write she gets bored in the process.

The data supports the notion that deaf children encounter various challenges with sign language acquisition and, specifically, challenges regarding programmes on television without subtitles or interpreters. If these challenges are not resolved, it would mean that inclusion is not applied to all different contexts, including television programmes, so that deaf learners feel accommodated. However, Blake (2013) states that due to the developments that have occurred in the field of technology and

media, especially with the emergence of and easy access to television and internet providers, via watching TV programmes, series, movies, talk shows, etc., the acquisition of new vocabulary has become easier and more rapid. Television and digital media providers (through the audio-visual products) have an important role to play in developing a child's vocabulary, since this is characterised by combining verbal and non-verbal information, sound and images into the content to be learned by children (Blake, 2013).

This is why television and digital media providers are considered to be an effective tool for learning and teaching vocabulary. In addition, they are considered to be a good way of achieving better and faster acquisition of different varieties of languages, especially the English language with its several varieties (Thomas & Reinders, 2013).

4.5.4 Theme 4: Barriers to the effective learning of SASL

This theme focuses on what happens at school in the process of learning sign language. It discusses the barriers to effective support for deaf learners in learning SASL and the influence of teachers of the Deaf. Learning SASL for the first time at school with no prior background and teachers' inability or inexperience to teach SASL to deaf learners are furthermore discussed, incorporating what was observed in the classroom. The theme and its sub-themes that emerged from the data are graphically represented in Figure 4.4 and Table 4.7, which illustrate the inclusion and exclusion criteria.
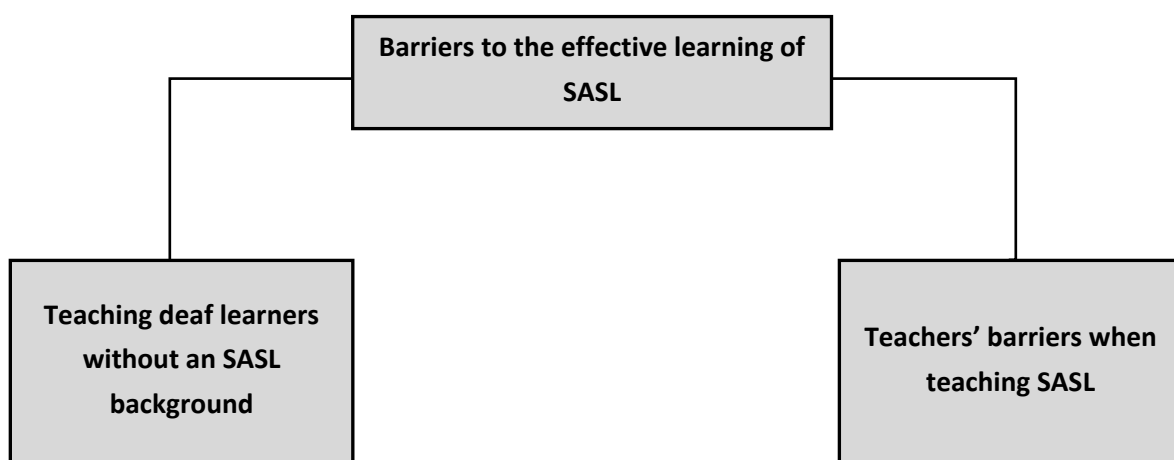
Figure 4.4: Graphical representation of theme 4 and its sub-themes

Table 4.7: Inclusion and exclusion criteria for theme 4 with its sub-themes

Barriers to the effective learning of SASL		
Sub-themes	Inclusion criteria	Exclusion criteria
4.1 Teaching deaf learners without an SASL background	Information related to deaf learners' background in SASL	Information not relevant to deaf learners' background in SASL
4.2 Teachers' barriers when teaching SASL	Information related to teachers' barriers when teaching SASL	Information not relevant to teachers' barriers to teaching SASL

4.5.4.1 Sub-theme 4.1: Teaching deaf learners without an SASL background

Teaching deaf learners with a limited background in SASL acquisition is a barrier on its own, as teachers need to first teach the basics of sign language. As indicated in sub-theme 2.2, deaf learners usually come from hearing families with no background of deafness and SASL. Therefore, this affects deaf learners when they enrol at school for the Deaf as they enter with no basics of sign language. In this study, hearing parents indicated that their deaf children enrol at school on time with no delay, and also all deaf learners interviewed indicated that they started learning sign language at school. Below are comments made by deaf learners on when they started learning SASL;

LA:

> Q: Where and how did you learn sign language?
> A: At school [interpreted].

LB also commented:

> Q: Where and how did you learn sign language?
> A: At school [interpreted].

Learner C and Learner D indicated the same information, learning SASL at school;

> Q: where and how did you learn sign language?
> A: I started learning sign language at school [interpreted] (LC).
> Q: Where and how did you learn sign language?
> A: I learn at school [interpreted] (LD).

Teachers of the Deaf also confirmed what was indicated by deaf learners in learning sign language at school:

> Q: How do deaf learners acquire sign language, as a home language or additional first language?
>
> A: From school, some parents does help learners depending at the background. (TA).

Teacher B's response was as follows:

> Q: How do deaf learners acquire sign language, as a home language or additional first language?
>
> A: Deaf learners most of them acquire sign language at school those born from deaf parents learn sign language from them (TB).

As indicated by the above data, the acquisition of SASL by deaf learners born to hearing parents begins at school; they enrol at school with no basics of sign language and they need the full support of their teachers to acquire SASL.

4.5.4.2 Sub-theme 4.2: Teachers' barriers when teaching SASL

As indicated in Table 4.7, one of the barriers teachers encounter are caused by their inability to teach SASL or their inexperience in teaching SASL. When teaching learners SASL, a qualified teacher is required. During data collection in this study, it was discovered that teachers of the Deaf experienced some shortcomings in teaching deaf learners. This sub-theme explores how teachers obtained or were given the opportunity to teach deaf children. The majority of the participants in the study indicated they either had a teaching qualification but were not trained in SASL, or they were qualified in SASL but were not qualified to teach.

This is one of the findings of the study that require attention. Some of these teachers indicated having had to teach SASL to colleagues at school when they were employed. This situation could be problematic. Ntinda et al. (2019) state that teachers who are trained in SASL are more effective in teaching and advancing learners' achievement compared to teachers who are not trained in SASL.

Teachers indicated that they try their best to prepare lessons that deaf learners understand, and that sometimes they have to be creative when explaining something to deaf learners that involve objects that do not have signs or they do not know how to indicate them in sign language. During Grade 6 lesson observations (OBS 1, 2 & 3), teachers were observed suing SASL when teaching deaf learners, as stated in FN (line 4). Teachers well prepared their lessons and made use of teaching resources visuals and technological devices.

Teacher A explained how she was exposed to sign language without proper training:

> I started learning SASL during my teaching practice at the school for the Deaf as I was working as an assistant.

While Teacher B said:

> I was introduced to sign language by my mother-in-law. She was a nurse at the school for the Deaf working with deaf learners. I used to visit her and she used sign language when communicating with them.

When Teacher B was asked if SASL was part of her training, she responded:

> No, it was not. I learn sign language at school they were offering classes for teachers who can't sign, and in the afternoon I will ask learners to assist me learn sign language.

Teacher D responded as follows to the same question:

> I studied at the University of Witwatersrand for my full degree in SASL from there on I completed my honours in SASL.
> Q: Where did you gain interest in teaching at the school for the deaf?
> A: While I was studying at the University, I had to visit schools for the Deaf in Gauteng. Having to interact with the learners for that short space of time made me realise there is a great need in the field and I can make a difference.
> Q: Describe how sign language was part of your teacher training?
> A: It was not part of it.

These different responses from teachers confirmed that it is difficult to find teachers who are qualified and have completed training in both teaching and SASL, before being employed to teach deaf learners. Most teachers were trained at the school for the Deaf where they are employed, learning sign language at the same time as the deaf learners which results in deaf learners being taught sign language by teachers who sometimes feel their training is inadequate.

4.5.5 Theme 5: Strategies used to support deaf learners to acquire SASL

This final theme discusses and explain strategies used by teachers to support deaf learners in overcoming learning barriers to SASL. These strategies assist in improving SASL acquisition by deaf learners. The sub-themes for this theme are represented in Figure 4.5, while Table 4.7 explains the findings of the interviews conducted with teachers on the learning support strategies they use with deaf learners. These are indicated in the lessons observed (OBS) and field notes (FN) taken in the classrooms to discover the use of SASL when teaching. Table 4.8 illustrates the schedule of lessons observation.
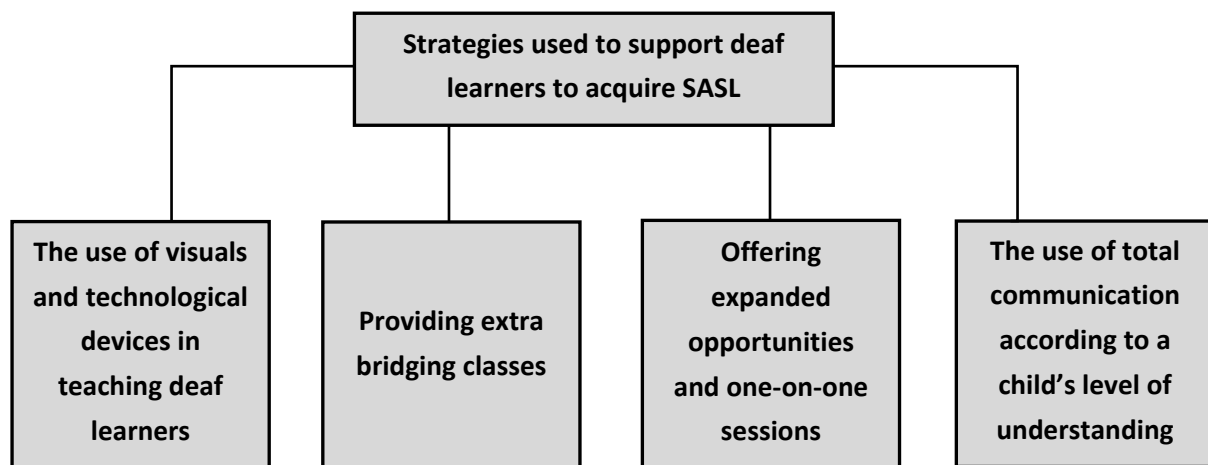
Figure 4.5: Graphical representation of theme 5 and its sub-themes

Table 4.8: Inclusion and exclusion criteria for theme 5 with its sub-themes

Strategies used to support deaf learners to acquire SASL		
Sub-themes	**Inclusion criteria**	**Exclusion criteria**
5.1 The use of visuals and technological devices in teaching deaf learners	Explanation of using visuals and technology devices in teaching	Information on teaching SASL without visuals
5.2 Providing extra bridging classes	Explanation on how extra classes are conducted	What did not refer to extra classes
5.3 Offering expanded opportunities and one-on-one sessions	Information on expanded opportunities	What was not expanded on
5.4 The use of total communication according to a child's level of understanding	Explanation on the use of total communication	Information not relevant to total communication

4.5.5.1 Sub-theme 5.1: The use of visual and technological devices in teaching deaf learners

Teachers at the school for the Deaf indicated the importance of using visuals and technological devices in teaching deaf learners in all subjects. They explained that since learners are deaf the main option in teaching and learning is through the use of these devices. When teaching a concept, it is easier for deaf learners to see it visually in the form of a poster chart, or pictures. The learners understand the information provided in such a manner more easily. Teachers use these visuals a support methods and they also have a whiteboard and projectors in their classrooms.

Teacher F explained how interesting deaf learners find the use of visuals:

> … it is very much more; they become very excited because they don't look at me as the teacher sign, we have videos, person signing DVDs, we have videos that are the text documents that are translated to sign language; so once they watch the person, signing it increases their interest, because they get exhausted easily.

Teacher D:

> I use visuals more than written work. Deaf people are generally visual people not only the learners. Therefore, to maintain and store information quicker

and effectively I use examples which relate to them and their knowledge, I use materials and objects to demonstrate. however, I also have to give them a break to think about the lesson.

These comments by teachers are evidence that deaf learners learn more easily through visuals and technological devices. These methods also keep them more interested than providing them with an overload of written work. It is important to use technology when teaching deaf learners; Zysk and Kontra (2016) explain that methods for teaching deaf learners include visual materials and the use of technology, which keep deaf learners motivated and active during the lesson. While these kinds of teaching resources assist in keeping deaf learners interested, Zysk and Kontra (2016) also indicated that deaf learners must be given time to think over the lesson learnt and a chance to practise.

The lessons observed at the school support what the teachers said. In all three classes observed, I noticed the use of projectors, teachers making use of laptops to display information and visuals such as colourful posters in the classroom, as stated in my field notes (FN line 5). In addition, in all three lessons observed, teachers made use of visual representations and technological devices such as projectors, whiteboard markers, colourful posters and charts to present their lessons. Deaf learners were observed to be enjoying the lessons as they were able to see what was being taught. They participated in the lesson using SASL.

4.5.5.2 Sub-theme 5.2: Providing extra bridging classes

This sub-theme explains how teachers of the Deaf provide extra and/or bridging classes for deaf learners with barriers to learning SASL. Extra classes are additional classes provided by teachers and can take place in the morning before school commences with the daily timetable routines or in the afternoon after school. Teacher F (TF) explains that she provides bridging classes by taking deaf learners back to Grade 1 and do all the basics with them until they have mastered the basics of SASL, then she moves the learner to a normal class of his or her age.

This is how Teacher E responded in this regard:

Q: How do you support deaf learners with a sign language learning barrier?
A: Extra lessons at their own pace and individual ability.

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Teacher C responded as follows:

> Q: How do you support deaf learners with a sign language learning barrier?
>
> A: Provide extra classes and create more accessible resources.

Teacher F explained the provision of bridging classes:

> Yes, like SIAS, and also the course I did at UJ, so with the learners who had no basic or background of sign language, I gave them a bridging class so they could learn all the basics and alphabet and then take them to the next level and how to communicate at the same time all the subjects they learn them by then I was teaching at Foundation Phase then after that I degrade them I remove them from that bridging class to like Grade 1 Grade 2.

The data support the fact that extra/bridging classes are effective in providing deaf learners with support when learning SASL and improving sign language acquisition. These classes can teach learners the basics of SASL to try to fill the gap that the child has in learning, specifically SASL. Chidakwa and Chitekuteku (2012) explain that extra classes are designed for learners who are academically weak and in need of extra support. While KO and Xing (2009) stated that taking extra classes can improve learners' academic performance.

4.5.5.3 Sub-theme 5.3: Offering expanded opportunities and one-on-one sessions

Teachers also explained how they offer expanded opportunities (giving leaners a second chance at writing a task/assessment) and one-on-one sessions (individual support by a teacher to a deaf learner with a learning barrier). When a child is offered a second chance of writing the activity or given an individual attention, there is no need for the child to attend extra classes, as the individual support plan has been designed. This sub-theme, as indicated in Table 4.8, provides an explanation on how this kind of support is offered by teachers.

As Teacher A explained, by "*giving them extra time and one-on-one intervention*".

And teacher B said the same: "*I offer extra classes, one-on-one and individual teaching.*"

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Expanded opportunities assist in offering a second chance to deaf learners who did not perform well, while one-on-one sessions provide an opportunity for the teacher to focus on the child with a learning barrier individually. This is called an Individual Support Plan which is designed by a teacher to explain all the areas in which a learner needs to be supported, also informing the parent about what his or her child is struggling with academically. DBE (2014b) states that support has to be provided to learners who encounter learning barriers in the classroom, and extra classes are thus of significance in the case of deaf learners.

4.5.5.4 Sub-theme 5.4. The use of total communication according to a child's level of understanding

This sub-theme explains how teachers apply the use of total communication strategies according to a child's level of understanding. As mentioned in Table 4.8 information included here relates mainly to total communication.

Teacher D said:

> I use pidgin language. I incorporate spoken with sign depending on the learner's level of signing. I also use total communication or spoken sign until the learner gets a grip of what is meant to be learnt or until the learner can use full SASL (TD).

Total communication was observed during the NS/Tech lesson, where the teacher signed and simultaneously explained verbally (FN line 10). I observed that some deaf learners are also look at the teacher's lips when she explains a particular content. The observations were conducted with the aim of exploring whether teachers use the complete SASL when teaching deaf learners or not. The result of the observations was that not all teachers use complete SASL to teach and it also depends on the deaf learners' level of understanding of SASL. Teaching and learning aids were prepared for each lesson. During the classes I observed, two teachers used SASL alone (OBS 1 & 2) and one teacher used total communication (OBS 3).

Teachers were observed to have used simple methods to express ideas in SASL (FN, line 14). In addition, total communication was used in the classroom, including participation by deaf learners in the lesson, to increase the understanding of what

was being taught in class. Lessons were observed to be well prepared from beginning to end (FN, line 5). Teachers indicated that they sometimes have to be creative to explain things to deaf learners such as objects that do not have a sign or they do not know the sign in sign language. All lessons were visual and tended to be practical so that deaf learners could understand (FN, line 8).

The strategies used by teachers are meant to assist deaf learners and to address the gap in understanding of learners of SASL with no basics in signing (Peel, 2004). Teachers agreed that these strategies are helping and they will continue applying them. Magongwa (2010) further explains that total communication involves all kinds of communication, such as speaking, sign language, listening, natural gestures, body language, finger spelling and lip reading.

These kinds of support offered by teachers relates to what Woolfolk (2010) explained in chapter 2 page 51 the zone of proximal development as a stage in which a child can master a task when she/he is offered the necessary assistance and support, the same way teachers of the deaf does to support deaf learners.

4.6   SUMMARY

In this chapter I presented the findings on the sign language challenges encountered by deaf learners born to hearing parents. I identified and provided a detailed discussion of the five themes that emerged from the study, together with their subthemes, incorporating the data with the lessons observed in the field, and relating this to the existing literature that correlates with the findings of this study.

In Chapter 5, which concludes this study, I respond to the research questions posed in Chapter 1. In doing so, I integrate the themes to provide final answers, state the limitations and implications of the research, make suggestions for future research and indicate the contribution made by this study.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1   INTRODUCTION

In this concluding chapter, I provide an overview of this research study and thereafter I present the conclusions drawn from the data and answer the primary and secondary research questions set at the beginning of my research. A discussion of the limitations and challenges of the study are followed by the recommendations of the study. The chapter concludes with the contribution of the study.

5.2   OVERVIEW OF THE PREVIOUS CHAPTERS

5.2.1   Chapter 1

In Chapter 1, I gave a general overview of the study and I provided the initial literature review and the rationale for the study. I explained the purpose of the study followed by the research questions formulated to guide the study. I then stated working assumptions and clarified key concepts for the study. I also stated the chosen epistemology and presented a broad methodological approach, as well as defining strategies. The chapter concluded with an overview of the ethical considerations and quality criteria observed for the study.

5.2.2   Chapter 2

In Chapter 2, I explored and discussed in depth the relevant literature related to the research topic on challenges encountered by deaf learners born to hearing parents. I defined main two terms, *deafness* and *sign language*, which formed part of the research. I then explained barriers that hinders sign language acquisition. I stated and discussed the history and background Deaf of Education and the impact it has had on SASL. The Salamanca Statement was explained and the vital role it has played in improving the quality of teaching and learning of deaf learners. I then discussed international and national sign language policies, and disability legislation was briefly explained. An overview was given of how teachers support deaf learners in sign language acquisition and the various strategies they use to accommodate learners with sign language barriers. I then explained the theoretical framework for

the study in depth. Furthermore, I presented a brief background of what is expected in a child's development in comparison to a deaf child's development.

5.2.3   Chapter 3

In Chapter 3, I exclusively discussed the qualitative research paradigm and research methodology that guided my study, detailing the methodological processes and research design. I explained the sampling procedures which involved six experienced teachers of deaf learners, six Grade 6 deaf learners and their hearing parents. I further stated where the research took place, that is, at a school for the Deaf in Gauteng. This section was followed by a discussion of the data collection techniques which included interviews, lesson observations, document analysis and field notes, as well as audio and video recordings for documentation purposes. I gave an explicit explanation of how the data were analysed using an inductive thematic analysis approach. I then indicated the measures that were taken to ensure the quality of the study. I mentioned the role I played as a researcher, and finally I outlined the ethical procedures that were undertaken.

5.2.4   Chapter 4

In Chapter 4, I discussed the data collection processes in participant interviews and observations. Information on participants and data analysis strategies were indicated in the form of a table. In a table, I presented and discussed the observation schedule used during lesson observations, the results of the study in terms of the themes and subthemes that emerged from the inductive thematic data analysis and related the findings to the extensive literature presented in Chapter 2. I then discussed the conclusions that led to answering the research questions.

5.3   DISCUSSION OF THE RESEARCH QUESTIONS

In this section I present the formulated research questions that guided the study. I initially provide answers derived from the findings discussed in Chapter 4 as responses to the three research secondary research questions stated in Chapter 1. I then endeavour to answer the primary research question. Throughout this chapter I linked the findings to the existing literature reviewed in Chapter 2. Table 4.2 in Chapter 4 page 82, illustrates the way in which the themes identified in Chapter 4 eventually provided answers to the research questions.

5.3.1   What are the factors influencing deaf learners' use of sign language?

This question assisted in identifying factors that influence the use of sign language by deaf learners. The main aim of this question was to identify and discover these factors as they have an impact on sign language acquisition. These factors emerged from the findings pertaining to themes 1 and 2 and related to the extant literature. These factors were noticeably, firstly, indicated by the hearing parents who then explained the journey they went through in the process of discovering that their child was deaf, seeking professional assistance, and coming to an acceptance of the condition and the situation (subtheme 1.2 and 1.3).

Gregory et al. (1998) indicate that the diagnosis of the deafness may put a strain on the relationship between hearing parents and their deaf children. Hence, early diagnosis of and interventions for deaf children have a positive effect on learning sign language at an early age, because deaf children are offered an opportunity to learn the basics and acquire sign language at an early age (Isaacson, 2000).

Furthermore, the deaf learners in the study indicated that their hearing parents are unable to use SASL at home as they are not native signers. This leads to the use of natural, home-made sign language and spoken language at home as a method of communication, without the use of proper SASL, as discussed in subtheme 2.1.

The findings further indicate that a family background of deafness and sign language plays a significant role in a hearing family's understanding of deafness and the ability to use sign language. A family's prior understanding of deafness has a positive effect on deaf learners in acquiring sign language at home and being supported by their family. However, a family without a background in sign language has been identified as one of the factors influencing the use of sign language by deaf learners (subtheme 2.2). The lack of SASL results in misunderstandings and communication barriers between hearing families and the deaf child.

A child from a hearing family is less likely to learn SASL and to use it efficiently as a communication tool. Social interaction plays a vital role in learning and acquiring a language in general. The more a child interacts with others (parents, siblings, friends, peers) using sign language the more fluent the child will be in sign language. As explained by Vygotsky's sociocultural perspective, social interaction and the

community have a significant impact on learning a language (Vygotsky, 1993). Social interaction occurs through the use of language and communication; it is here that the child learns new words. This is supported by Marschark and Hauser (2012) who indicate that the majority of a child's information is acquired from other people who provide the child with knowledge and new methods of interacting with others.

The lack of social interaction by deaf learners was discovered from the study findings, it is also one of the factors that hinders the use of sign language by deaf learners, as discussed in subtheme 2.3. Deaf children are marginalised and excluded as a result of growing up in a hearing culture that interacts through spoken language, and they often encounter language barriers while attempting to connect and engage with hearing community members because of the language differences (Montero et al., 2009).

In addition, some deaf learners in the study indicated that they did not have hearing friends and preferred making friends at school with other deaf learners. Making friends is a developmental task but is difficult for deaf learners since children interact as they play together and communicate using spoken language, which can make the deaf child feel marginalised and excluded (Montero et al., 2009).

In conclusion, these factors, which influence the acquisition of sign language by deaf learners, indicate that deaf learners enrol at school without SASL basics, and teachers then have the responsibility to teach them the fundamentals of sign language.

5.3.2 How can hearing parents support their deaf child in acquiring sign language?

This question serves as a follow-up question to the first secondary question about how deaf learners are supported by their hearing parents at home in the acquisition of sign language and with their homework. This research found that hearing parents are offered SASL training by the school for the Deaf, in order for them to support deaf learners at home. However, the majority of hearing parent participants indicated they had not attended the SASL training offered to them.

Hearing parents' support for their deaf children is lacking, specifically in learning sign language, and some hearing parents indicated that they wrote down the answers for

their children when they were doing their homework. One of the sign language barriers highlighted in the study is the difficulty for parents to communicate and explain what is required in the homework assignments to their deaf children. Hearing parents mainly used a bilingual approach with their children at home, where spoken language was used to explain certain concepts instead of sign language. This caused confusion for the deaf children as they were taught one language at school and another was used at home. This aligns with what Roman (2018), who states that hearing parents cannot fully avoid using spoken language with their deaf children unless the parent is fluent in sign language, which in most cases is not the case.

The study results indicate that hearing parents who attended SASL training were much better equipped to understand SASL. They at least know the basics of sign language and are able to support their deaf children compared to those who did not attend the training. Deaf children whose parents did not attend the SASL training had less support from their hearing parents in sign language acquisition at home, as discussed in subtheme 3.1. Another way of learning a language it is through media such as television and radio. Blake (2013) states that with the developments that have occurred in the field of technology and media, especially with the emergence of and easy access to television and internet providers, and TV programmes, series, movies, talk shows, etc., the acquisition of new vocabulary has become easier and more rapid (Thomas & Reinder, 2013).

The findings indicate that hearing parents have to interpret programmes on television for their deaf children using natural sign language, especially if they do not have subtitles. Accordingly, deaf children have limited choices of television programmes, because most programs do not include a sign language interpreter. Hearing parents indicated on Chapter 4 section two in paragraph four that their children prefer to watch shows or programmes that are more practical with instructions written in the subtitles.

Blake (2013) states that deaf children are disadvantaged in learning and developing vocabulary and that television and digital media providers (through their audio-visual products) have an important role to play in developing children's vocabulary, since such programmes are characterised by a combination of verbal and non-verbal

information, sound and images about the content to be learnt by children (Blake, 2013).

Deaf learners indicated that their parents either do not support them at all in doing their homework or their parents would rather read and write the answers down for them to copy to their school books. The teachers also highlighted that support from hearing parents is one of the most important aspects to ensure that learners reach their optimal potential in school. Hearing parents in this study mostly did not take advantage of the parental support services offered by the school.

I then connected the support offered by parents with the zone of proximal development in chapter 2 page 51-52 that when children are imitated (an adult imitate what the child said or do), they can do even more when they are grouped and supervised by adults rather than when they are left alone, and they can do so with greater comprehension and independence. The zone of proximal development is defined by the variations between the level of problem-solving tasks that can be completed with adult guidance and assistance, as well as the degree of independently solved activities (Daniels, 2003).

Daniel (2003) explains the zone of proximal development is the distance between the child's present level of development and what the child can attain "through adult guidance or in collaboration with more capable peers in chapter 2 page 52. However, the case differs to deaf learners as some of their parents are unable to guide and assist them with homework at home.

5.3.3   How can teachers support deaf learners to enhance their use of sign language?

This question explored views from both teachers and parents of deaf learners concerning teaching strategies adopted to enhance sign language use by deaf learners (see section 2 in chapter 4). Teachers indicated that the use of technological devices to teach deaf learners is the main resource utilised. The reasons teachers provided included that deaf learners learn better when using visual materials rather than when doing written work. This study showed that technology kept learners interested in the lesson content and the learners were better able to

memorise what was taught in class when the lesson was presented visually using technology.

It was also observed that all classes had colourful posters and projectors for teaching and learning. Zysk and Kontra (2016) recommend that teachers have an extra responsibility to test technical aids regularly to ensure they are functioning. According to the data gathered in this study, the main task of the teacher is to ensure that both the hearing staff and the hearing learners need to know how to communicate with deaf learners.

In addition, teacher should also note that deaf learners exhaust faster than normally expected, thus lessons should include various activities in order to change their focus and rest their eyes. However, these recommendations and support offered by teachers at school are not sufficient in supporting deaf learners to learn sign language. The research finding of this study indicates that the teachers were concerned about the general lack of parental support for deaf learners. The teacher participants advised that the hearing parents of deaf learners need to be fully involved in supporting deaf learners at home, and should be willing to learn SASL and attend SASL training courses in order to provide adequate support.

Teachers further indicated that they provided extra or bridging classes and offered expanded opportunities for extra support and an Individual Support Plan for learners with learning barriers, in line with what is required by the inclusive education, SIAS and other related policies that support learners with learning difficulties or barriers. The teachers indicated that support from the school and the teachers is not enough, as deaf learners need the support of their parents to be able to reach their full potential.

In conclusion, the findings aligned with the extant literature regarding the significance of support by hearing parents for their deaf children. Woolfolk (2010) states that the zone of proximal development is a stage in which a child can master a task when she/he is offered the necessary assistance and support. Daniels (2003) further explains that the zone of proximal development is defined by the variations between the level of problem-solving tasks that can be completed with adult guidance and assistance, and the degree to which activities are done independently.

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Therefore, without the proper support from both teachers and hearing parents, I conclude that learners' sign language challenges will not be resolved without adequate support from both the school and the deaf learners' home environment.

5.3.4 The primary research question: What are the sign language challenges experienced by deaf learners born to hearing parents?

With the findings derived from the secondary questions, I then respond to the main research question for the study. This question arises within the context of discovering sign language acquisition challenges. These experiences have been identified and briefly discussed in the themes, such as themes 1 to 4 which were discussed in Chapter 4. Answers derived from the secondary questions indirectly provided responses to this primary question, hence the highlighted points in relation to the experiences of sign language are further discussed in the subsequent paragraphs.

The findings of the study and the literature review have shown that hearing parents of deaf learners have a profoundly negative impact on deaf learners' acquisition of sign language. According to research (Pribanic, 2006), almost 90% of deaf learners are born to hearing parents and thus a large proportion of deaf learners' experience delays in learning sign language. A language is acquired and learnt at home, but this is not the case for deaf learners with hearing parents. When a deaf learner enrols at school for the first time without a SASL background, they have to be taught the basics of SASL by their teachers. This causes an understandable delay in the use of sign language for deaf learners. The research data gathered in this study supports the notion that sign language acquisition only occurs at school level for most deaf learners.

As a result of a lack of adult and peer models of sign language in the deaf child's household, learning a language (both sign and spoken language) is much more difficult for deaf children born to hearing families (Swanwick, 2017). Communication and language barriers thus start at home, where deaf children are supposed to grasp all the basics of sign language and be able to interact and socialise using sign language. Moreover, deaf children grow up in a hearing society which has no SASL background and is unwilling to learn sign language to accommodate deaf children. Broader social interaction using sign language is therefore hindered for deaf

learners. The onus is on hearing parents to commit themselves to SASL training as early as possible in order to avoid sign language acquisition delays for their deaf child.

Another challenge discovered in the study is the relatively late discovery of deafness in a child by hearing parent (subtheme 1.1). The findings indicated that the majority of hearing parents discovered that their child is deaf at a late age. Some parents indicated that they discovered that their child was deaf at the age of two or three (Le Roux & Vinck, 2015).

By the age of two or three a hearing child is expected to at least have grasped more than a thousand words and have the ability to make sentences with meaning. The deaf child without an introduction to sign language reaches that age with a limited vocabulary, nor are they able to use sign language to communicate meaningfully. As Spencer and Marschark (2010) indicate, deaf children who have been identified early on are more likely to receive early intervention, which results in better language development.

Le Roux and Vinck (2015) indicate that the earlier a child is diagnosed as being deaf, the earlier intervention can occur. The sooner a deaf child is introduced to sign language, the sooner the child will be able to understand and interpret his/her environment. This understanding will support the deaf child's socialisation with his/her family and peers. Behaviour difficulties, as discussed by Siegal and Surian (2012), indicate that deaf children whether from hearing or deaf families, profit from bilingual instruction in expressing understanding of how others' beliefs, feelings and intentions can influence their thinking and behaviour. Furthermore, Piaget discussed the expected cognitive developmental stages of a child, as discussed in Chapter 2 of this study, indicating the phases and changes that occur in a child when growing up. This study did not, however, explicitly focus on cognitive development but it could be argued that with delayed language acquisition it might cause developmental delays in a deaf child (Saracho & Spodek, 2012).

Terwogt and Rieffe (2004) also explain the behavioural issues related to deaf children and that deaf children are regarded as obstinate and stubborn by nature and they can be aggressive, specifically boys, due to growing up in a hearing

environment that uses spoken language where they feel excluded. In my observations, the behavioural difficulties that the participants in this study displayed in the classroom, specifically boys, were that they played roughly; for example, one of the learners was in tears and explained to the teacher in sign language with an angry facial expression what another boy did to him. Deaf children do not usually have a cognitive impairment according to Mestherie (2004) and they are also not averse to social contact, but they are cut off from or disadvantaged from daily communicative environments in significant ways, which might affect their behaviour.

The findings of this study and of the literature review therefore lead to the conclusion that it is not possible to discuss sign language challenges encountered by deaf learners without mentioning the parents' role in language development.

In addition to the late diagnosis of deafness in children in the study and delayed sign language acquisition, the study also explored the negative impact of teachers who are not fluent in the use of sign language. The teachers in this study indicated that they had to learn sign language from colleagues and from deaf learners at the school where they are employed. This in-house sign language training meant that some teachers learnt sign language at the same time as the deaf learners they taught. Teachers who are not fluent in the use of SASL do not have the specialised expertise to teach SASL to deaf learners. Teachers acquiring SASL at the same time as they are teaching deaf learners thus have a negative impact on the deaf learners' acquisition of sign language.

These findings are commensurate with the literature which states that despite the fact that sign language has been adopted as the language of learning and teaching in many schools for the Deaf in South Africa, only 14% of teachers have well-developed SASL skills (Ntinda et al., 2019). Most teachers lack specialised expertise in using sign language to scaffold textual literacy skills in a second language, as well as instruction in using a signed language to scaffold textual literacy skills in a second language (Glaser & Pletzen, 2012).

I conclude that sign language challenges encountered by deaf learners born to hearing parents, that these challenges are encountered from their parents, teachers and also the society they live in, where there are no sign language basics and

learning. The findings indicate that a language is learnt from others, and that sociocultural influences play a vital role in acquiring and learning sign language. The authors of the extant literature have discussed these challenges and the findings of this study generally agreed and aligned with these facts. The literature cited was mostly international literature, but the same difficulties were seen in the current study in the South African context. I am cognisant of the fact that there are numerous challenges within the context of Deaf Education and SASL acquisition that still need to be addressed. SASL makes it possible for deaf learners to receive age-appropriate education at the same level as their hearing peers. Therefore, it is important to ensure that the barriers to learning SASL are identified and addressed.

5.4   FURTHER LIMITATIONS AND CHALLENGES OF THE STUDY

Only one school for the Deaf from one province participated in the study with a small sample of participants. Therefore, the outcomes may not be applicable to schools in other parts in South Africa. The inclusion of more than one school for the Deaf from different provinces would have yielded additional useful information and richer information might have been obtained. However, the generalisation of my study findings is not suggested as this is an interpretive and thus a qualitative research study (Creswell, 2018). This case study was not designed to generalise but rather to gain detailed information on sign language challenges encountered by deaf learners born to hearing parents. The research results could, however, be used to draw conclusions in similar contexts.

Another limitation of my study was my inability to understand sign language fully. The deaf learners communicated using SASL although some of the learners' sign language expression was limited. The study could only include a limited number of participants owing to time restrictions. Thus, the teachers had to interpret the learners' signed answers to me. This was a slow process and thus limited me in terms of the sample size. Additionally, observations of lessons were done in other subjects than the subject SASL itself. This limited the data generated as I did not have the opportunity to observe SASL learning as a subject.

A detailed description of the way in which the research was conducted was provided to allow other researchers to make judgements based on the transferability of the research to their specific situation of interest (Creswell, 2013). Therefore, I paid close

attention to ensuring I followed the quality assurance criteria as described in Chapter 3 section 3.5. In addition, my subjectivity may have influenced how the study findings were reported and interpreted. I did aim to reduce my subjectivity by engaging regularly with my supervisor in order to reflect and debrief to ensure that the information generated was not biased but was a reflection of what was obtained from the collected data.

5.5   STRENGTHS OF THE STUDY

As a researcher, before commencing with the study relating to deaf learners I ensured that I had some sign language experience and training in SASL. I aimed to investigate the factors influencing sign language acquisition for a deaf learner with hearing parents and ensured that my data measurements and analysis applied were trustworthy. I furthermore aimed to ensure quality data measurement by establishing a trusting relationship with the participants. I made use of pseudonyms to safeguard their anonymity and thereby enhancing participant confidentiality. I aimed to create a platform on which all the participants felt free to express their experiences relating to sign language challenges. I examined the results in detail without being biased and participated in guidance and debriefing sessions with my supervisor before and after the data collection and analysis phases of the study.

I adhered to the ethical guidelines by assuring that all letters of request and permission were submitted to the district Department of Basic Education and a permission letter was signed by the principal of the school where the data were collected. Participants signed the consent and assent forms as evidence of agreeing to take part in this study.

The data collected were analysed (interviews and lessons observations) using inductive thematic data analysis. Findings were then compared with the extant of literature and government policy documents were analysed against the findings of this study. Subsequently, conclusions were drawn, guided by the primary and secondary research questions stated in Chapter 1, in relation to the confirmability, dependability and authenticity of the study.

5.6   RECOMMENDATIONS

The following subsections present recommendations for training and future research.

5.6.1   Recommendations for training

The findings of this research indicated numerous challenges encountered by deaf learners in acquiring and learning sign language both at home and at school. One of the challenges is that although hearing parents are offered training in sign language at school, such training should be offered to hearing parents prior to their deaf children enrolling at school. Sign language training for hearing parents can enable them to use and teach sign language to their deaf children at home while they are still infants or toddlers. Hence, hearing parents should attend sign language training until they are competent and fluent enough to communicate in sign language without mixing it with spoken language. The current SASL training offered by the school for the Deaf to hearing parents is a limited short course.

Secondly, the study discovered that the majority of teachers are not fully competent in using SASL. Some of the participants had to learn SASL while teaching learners who are deaf. Although the Department of Basic Education does provide support and short course training opportunities for teachers in the use of SASL, it is not sufficient. This issue should be rectified by teacher training institutions, and SASL should be incorporated in the regular curriculum training to equip teachers with sign language skills and to support them in dealing with deaf learners. SASL training and practical sessions should be a requirement for all South African students training to become teachers.

Such training could have a positive effect in terms of offering comprehensive support to deaf learners and could also support the inclusive education policy White Paper 6 which was designed and implemented to encourage accommodating and assisting learners from various diversity, with different disabilities, and addressing learners with different learning barriers within the classroom.

5.6.2   Recommendations for future research

Literature on the sign language challenges encountered by deaf learners born to hearing parents in South Africa is scarce and mostly outdated. Most current studies are focused on international research data, therefore it is recommended that extensive research on the same or similar topics be conducted in South Africa. The current research study comprised a small sample and it is suggested that a larger

participant cohort be included in a future study. Similarly, it is proposed that more than one school and more learners in different developmental stages are included in a future study.

To add to the findings of the current study, it is recommended that more in-depth research be conducted to investigate the SASL-related issues that were identified by this study. These include the following:

- Exploration of how inclusive school settings or contexts (other than schools for the Deaf) are in their accommodation of deaf learners using SASL.
- Investigation of strategies that could be used to support hearing parents with deaf children outside the school context.
- Investigation of strategies to support teachers in using SASL with deaf learners.
- An inquiry into the support offered to deaf children living in rural areas to acquire sign language.
- Teacher suitability in teaching at the school for the Deaf.

These sign languages related topics could provide rich information based on the issues of Deaf Education and SASL in general.

5.7   CONTRIBUTION OF THE STUDY

Existing studies in this field are mostly international in origin. Studies on sign language acquisition challenges encountered by deaf learners born to hearing parents in South Africa are limited and outdated. This study provided significant information on sign language acquisition challenges and contributes to the existing literature in the field of SASL acquisition. The study also provided detailed information on the causes of sign language acquisition delays in deaf learners. The study also highlighted on support offered by the school for the deaf to hearing parents in learning sign language.

Furthermore, this study provided insight on what occurs in the homes of deaf learners born to hearing families with regard to communication and language barriers, as well as how hearing parents support their children in sign language acquisition. The study also provided insight on the history of SASL, national and

international sign language legislation and policies in improving the acquisition and use of sign language, as well as the developments thus far with regard to SASL. In addition, a child's expected language development compared to the deaf child's experience was discussed.

The study further provided a brief explanation of the CAPS practice regarding sign language. Information was given on how deaf learners are identified and supported at school in sign language acquisition in practice with inclusive education and SIAS and other related policies, and also the obstacles to sign language support experienced by teachers of deaf learners.

Accordingly, my research may assist in improving the support offered to deaf learners, their hearing parents and the teachers of deaf learners.

5.8 CONCLUDING REMARKS

The purpose of this study was to identify and describe sign language challenges encountered by deaf learners born to hearing parents in South Africa, both at home where deaf learners are raised and at school. The information generated mostly agreed with the extant literature, with the findings confirming what was previously stated by other researchers. Subsequently, the findings highlighted various issues pertaining SASL acquisition.

The findings confirmed that SASL acquisition has numerous obstacles, especially with deaf learners born to hearing parents who have no sign language background and the support offered by teachers to deaf learners with sign language barriers. The study indicated the way in which teachers struggle to teach using SASL to teach all subjects and how they have created additional support to assist deaf learners with the specific learning barrier.

In conclusion, I hope that the challenges uncovered in this research may assist in addressing the challenges deaf learners, teachers and hearing parents encounter in sign language acquisition and learning, so that growth and improvement in SASL may be seen and recognised. I have also gained valuable knowledge about research methodologies and processes, and the importance of research in the field of SASL acquisition.

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Appendix A: GDE approval letter

GAUTENG PROVINCE
Department: Education
REPUBLIC OF SOUTH AFRICA

8/4/4/1/2

GDE RESEARCH APPROVAL LETTER

Date:	23 January 2020
Validity of Research Approval:	04 February 2020 – 30 September 2020 2019/374
Name of Researcher:	Dlamini S.P
Address of Researcher:	52 Lucas Moripe Street
	Saulisville
	0125
Telephone Number:	012 375 9129/ 078 261 3912
Email address:	noncie22@gmail.com
Research Topic:	Sign Language challenges encountered by Deaf learners born to hearing parents.
Type of qualification	Masters' Degree in Learner Support
Number and type of schools:	One LSEN School
District/s/HO	Tshwane South

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved to conduct the research. A separate copy of this letter must be presented to both the School (both Principal and SGB) and the District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted.

23|01|2020

The following conditions apply to GDE research. The researcher may proceed with the above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

1

Making education a societal priority

Office of the Director: Education Research and Knowledge Management
7th Floor, 17 Simmonds Street, Johannesburg, 2001
Tel: (011) 355 0488
Email: Faith.Tshabalala@gauteng.gov.za
Website: www.education.gpg.gov.za

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1. Letter that would indicate that the said researcher/s has/have been granted permission from the Gauteng Department of Education to conduct the research study.
2. The District/Head Office Senior Manager/s must be approached separately, and in writing, for permission to involve District/Head Office Officials in the project.
3. A copy of this letter must be forwarded to the school principal and the chairperson of the School Governing Body (SGB) that would indicate that the researcher/s have been granted permission from the Gauteng Department of Education to conduct the research study.
4. A letter / document that outline the purpose of the research and the anticipated outcomes of such research must be made available to the principals, SGBs and District/Head Office Senior Managers of the schools and districts/offices concerned, respectively.
5. The Researcher will make every effort obtain the goodwill and co-operation of all the GDE officials, principals, and chairpersons of the SGBs, teachers and learners involved. Persons who offer their co-operation will not receive additional remuneration from the Department while those that opt not to participate will not be penalised in any way.
6. Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal (if at a school) and/or Director (if at a district/head office) must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.
7. Research may only commence from the second week of February and must be concluded before the beginning of the last quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.
8. Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.
9. It is the researcher's responsibility to obtain written parental consent of all learners that are expected to participate in the study.
10. The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.
11. The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study may not appear in the research report without the written consent of each of these individuals and/or organisations.
12. On completion of the study the researcher/s must supply the Director: Knowledge Management & Research with one Hard Cover bound and an electronic copy of the research.
13. The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned.
14. Should the researcher have been involved with research at a school and/or a district/head office level, the Director concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

Mr Gumani Mukatuni
Acting CES: Education Research and Knowledge Management

DATE: 23/01/2020

Making education a societal priority

Office of the Director: Education Research and Knowledge Management
7th Floor, 17 Simmonds Street, Johannesburg, 2001
Tel: (011) 355 0488
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Appendix B: Request for Permission – Principal

Sign Language challenges encountered by Deaf learners born to hearing parents
Consent Letter Principal

Dear Principal

I am a student at the University of Pretoria and currently enrolled for my MEd (Learning Support Guidance and Counselling) in the Faculty of Education. The aim of my study is to identify Sign Language challenges encountered by Deaf learners born to hearing parents. The study will include telephonic interviews for educators and parents, online questions completion link will be used to gather information from Deaf learners and also video clips of lessons conducted by educators for data collection purposes.

I therefore would like to request a permission to conduct the research and use the above mentioned methods as part of data collection.

All the data collected will remain confidential and will only be used for academic purposes.

Should you require more information, please feel free to contact me or my supervisor on the email addresses provided below.

_____   _____
Ms Sinenhlanhla Dlamini   Dr Michelle Finestone
(Student)   (Supervisor)
Email address   michelle.finestone@up.ac.za
noncie22@gmail.com

I hereby confirm that I give consent / do not give consent for Ms .... to .... I understand the participation of the school is voluntary and can be withdrawn at anytime during the study. By agreeing to participate I allow teachers to ....

_____
Name and Signature of Principal

_____   _____
Date   Name of school/ School stamp

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Appendix C: Informed consent for participants

Sign Language challenges encountered by Deaf learners born to hearing parents

Consent Letter Parent

Dear Parent

I am a student at the University of Pretoria and currently enrolled for my MEd (Learning Support Guidance and Counselling) degree in the Faculty of Education. The aim of my study is to investigate sign language challenges encountered by learners born to hearing parents, as part of my study I will be investigating by asking you questions telephonically based on challenges your child encounter in using sign language, and also how as a parent supports your child in using sign language. The study may contribute in meeting diverse needs of Deaf children.

I therefore would like to obtain your permission to conduct the research, it is voluntary and you are allowed to withdraw from the research anytime you feel like doing so. The research will take place telephonically at a time that will be convenient for you. All the data collected will remain confidential and will only be used for academic purposes.

Should you require more information, please feel free to contact me or my supervisor on the email addresses provided below.

_____   _____
Ms Sinenhlanhla Dlamini   **Dr Michelle Finestone**
(Student)   (Supervisor)
noncie22@gmail.com   michelle.finestone@up.ac.za

I hereby confirm that I give consent / do not give consent for ……………………………………. to …………………… I understand that by giving consent my participation is voluntary and that I can withdraw at any time during the study. By agreeing to participate I will ……………………………………………………………………………

_____
Name and Signature of parent

_____   _____
Date   Name of school/ School stam

Faculty of Education

Sign Language challenges encountered by Deaf learners born to hearing parents

Consent Letter to Parents/Guardians

Dear parent/guardian,

I hereby request permission for your child to participate in my study. Currently I am studying for a Masters degree in Learners Support Guidance and Counselling at the University of Pretoria. As part of my study I will be asking your child questions online using the link that I will provide, based on sign language challenges. Your child will have to answer by completing online questions.

To ensure confidentiality learners will be allocated an identification number. The collected data will be stored in a safe place as per the requirements of the University. If you agree to allow your child to participate in this study, please sign this letter.

Should you require more information, please feel free to contact me or my supervisor on the email addresses provided below.

_____   _____
Ms Sinenhlanhla Dlamini   **Dr Michelle Finestone**
(Student)   (Supervisor)
noncie22@gmail.com   michelle.finestone@up.ac.za
....

I hereby confirm that I give consent / do not give consent for my child to take part in the study. I understand that

by giving my consent learners will .... Participation in the study is voluntary and the identity of the students will remain confidential. The data collected will only be used for the purposes of this study.

_____   _____
Signature of parent/guardian   Date

_____   _____
Name of learner   Name of school

Faculty of Education

Sign Language challenges encountered by Deaf learners born to hearing parents
Title of study
Consent Letter Learner

Dear Learner

I am a student at the University of Pretoria and busy with a research project. As part of my study I am interested in finding out about sign language challenges encountered by learners born to hearing parents. I have received permission from your parent/guardian and I will also need your permission. I will be asking you questions based on challenges you encounter in using sign language. All the answers will be kept confidential as only my supervisor and I will have access to the information. If you agree to participate please sign at the bottom of this letter.

Regards

_____
Ms Sinenhlanhla Dlamini
(Student)
noncie22@gmail.com

_____
Dr Michelle Finestone
(Supervisor)
michelle.finestone@up.ac.za

I agree / do not agree to an interview.

I understand that I am not being forced to participate and can change my mind at any time.

_____
Name

_____
Signature

_____
Date

Faculty of Education

Sign Language challenges encountered by Deaf learners born to hearing parents

Consent Letter Teacher

Dear Teacher

I am a student at the University of Pretoria and currently enrolled for my MEd (Learning Support Guidance and Counselling) degree in the Faculty of Education. The aim of my study is to investigate sign language challenges encountered by Deaf learners in the classroom, and the study may contribute to meeting the diverse needs of Deaf learners.

I therefore would like to obtain your permission to ask you questions telephonically based on teaching and learning of Sign Language challenges encountered in the classroom, and at a time convenient for you. It is voluntary and you are allowed to withdraw from the study anytime you feel like doing so. All the data collected will remain confidential and will only be used for academic purposes.

Should you require more information, please feel free to contact me or my supervisor on the email addresses provided below.

_____
Ms Sinenhlanhla Dlamini
(Student)
noncie22@gmail.com

_____
Dr Michelle Finestone
(Supervisor)
michelle.finestone@up.ac.za

....

I hereby confirm that I give consent / do not give consent for …………………………………………. to …………………………. I understand that by giving consent my participation is voluntary and that I can withdraw at anytime during the study. By agreeing to participate I will …………………………………………………………………………………………………

_____
Name and Signature of teacher

_____
Date

_____
Name of school/ School stamp

Appendix D: Interview schedule

THE PARENT INTERVIEW PROTOCOL
Sign Language challenges encountered by Deaf learners born to hearing parents

Questions:

1. How did you discover that your child is Deaf, and at what age?

2. Did you take your child to a health specialist when you suspected hearing problems?

3. How did this discovery affect your family?

4. Do you have any family member that is Deaf?

5. What language do you generally use to communicate with your child?

6. Did you receive any support in learning and understanding sign language?

7. How do you support your child in learning sign language at home?

8. Are you completely using sign language or also using spoken language?

9. How does your child interact with hearing children?

10. How is the rest of the family communicating with your child?

11. Are you experiencing any difficulties in supporting your child in using sign language at home?

12. At what age did your child enrol at school? If at a later stage what caused the delay?

13. How do you think your child cope with being Deaf?

THE LEARNER INTERVIEW PROTOCOL
Sign Language challenges encountered by Deaf learners born to hearing parents

QUESTIONS

1. Tell me something about yourself. For example, what do you like, don't like, what do you want to be when you are a grown up?

2. Which language do you use at home?

3. Which language do you prefer to use?

4. Do you have hearing friends and how do you communicate with them?

5. Where and how did you learn sign language?

6. Do you think your parents can understand sign language?

7. How do your parents support you in using sign language?

8. What was the most difficult thing for you learning sign language?

9. What do you find difficult in using sign language?

10. What do you find easy in using sign language?

11. What do you wish hearing people need to understand about being Deaf?

THE TEACHER INTERVIEW PROTOCOL

Sign Language challenges encountered by Deaf learners born to hearing parents

Questions:

1. Describe your background in Sign language (SASL)

2. Where did you gain interest in teaching sign language?

3. Describe how sign language was part of your teacher training?

4. How does your experience in teaching sign language influence your attitude towards teaching Deaf learners?

5. How did you feel the first time teaching Deaf learners and interacting with them?

6. Are Deaf learners using sign language when being assessed in all subjects? Why/why not?

7. How do Deaf learners acquire sign language, as a home language or additional first language?

8. Describe Deaf learners' behaviour towards learning sign language in the classroom.

9. What techniques or teaching strategies do you use to keep learners interested in learning sign language?

10. How do you identify Deaf learners with a sign language learning barrier?

11. How does sign language acquisition affect Deaf learners academically?

12. How do you support Deaf learners with sign language learning barrier?

Appendix E: Observation checklist and reflection

Observation checklist section A
Observational protocol

Topic of study: Subtraction and Addition
Classroom nr: 61   Gr 6
Time of observation: 11:00
Length of observation: _____

DESCRIPTIVE FIELDNOTES	REFLEXIVE FIELDNOTES
Classroom checklist: ☑ Sign language posters ☑ Teaching and learning aid ☑ Sign language teaching and learning Participants Maths teacher and Seven learners Class lesson – topic. Mathematics Strategies: Use of white board learner centered, Knowledge of SASL: The teacher uses Sign language to teach learners Communication in SASL: The teacher is teaching learners using Sign language and learners are fully engaged to the lesson and enjoying	Aid white board marker maths books each Learner has a small white board marker to do calculations on them, they are provided with a marker too. The teacher is teaching additions and Learners are fully participating in the lesson and they are enjoying maths lesson alot, the teacher assist learners when necessary.

Activities

Maths addition
lesson

Concluding comments or remarks

Learners enjoyed
doing addition and
subtraction activities

Faculty of Education

Department of Educational Psychology
Learner Support Guidance and Counselling
Observation checklist section B

Introduction: this observation checklist is prepared for data related to investigating sign language challenges encountered by Deaf learners, in using sign language in the process of learning and teaching, in one of the primary schools in Tshwane.

Date...18.../.09../.2020

a). Name of the school

b) Name of the teacher....

c) Name of the observer...Sinenhlanhla Dlamini

d) Subject observed...Mathematics

e) Grade and section observed...Grade 6 Maths addition

f) Number of learners...Seven learners

g) Time observation begin at ...11:00... to...11:20

h) Lesson topic...Subracting & Additions

No	Categories of class room observation	High	Average	Low
1	The teacher use easy/simple method to express his/ her ideas in sign language	✓		
2	The classroom environment to use sign language	✓		
3	Teaching aid material is available	✓		
f4	Learner participation	✓		
5	The teacher ability to fulfill total communication	✓		
6	Learners participation in the classroom activity	✓		
7	Reading and signing skill of the teacher	✓		
8	Reading and signing skill of the learners	✓		
9	Learners use textbooks prepared for instructional	✓		

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	language			
10	Sign language is used throughout the lesson	✓		

Observation checklist section A
Observational protocol

Topic of study: Ancient African — Egypt Society
Classroom nr: 6,2
Time of observation: 11',26
Length of observation: _____

DESCRIPTIVE FIELDNOTES	REFLEXIVE FIELDNOTES
Classroom checklist: ☑ Sign language posters ☐ Teaching and learning aid ☐ Sign language teaching and learning	The teacher introduced the lesson in completely sign language and even showed learners a map of where sign language is Egypt is in Africa Map.
Participants social science teacher and six learners	Use of books, textbooks, Projector and a white board marker to project information to learners,
Class lesson Ancient Egypt African	Learners were given a map copy to paste in their exercise books.
Strategies: The classroom is full of Pictural/Pictures colourful **Knowledge of SASL:** The teacher is well fluent in sign language	and the teacher is very patient with learners, One of the learners was slow and they had to wait for him to finish.
Communication in SASL: The teacher is using sign language throughout the lesson and learners are participating fully	

Activities

An learners paste African map to their books

Questions were asked to learners based on Ancient Egypt.

– Classwork was given to learners.
– learners were given questions based on the Egyptians lives, where they live.

Concluding comments or remarks

The teacher made use of pictures using the projector and it caught learners' attention.

Faculty of Education

Department of Educational Psychology
Learner Support Guidance and Counselling
Observation checklist section B

Introduction: this observation checklist is prepared for data related to investigating sign language challenges encountered by Deaf learners, in using sign language in the process of learning and teaching, in one of the primary schools in Tshwane.

Date - 18/09/21,-

a). Name of the school..(HOD).............

b) Name of the teacher ...

c) Name of the observer... Sirenhlanhla......Dlamini..................

d) Subject observed.....Social.. Science....................................

e) Grade and section observed......6......................................

f) Number of learners......Sioc.. learners..............................

g) Time observation begin at ..11:20.................to.11:46................

h) Lesson topic...Ancient....African = Egypt...Society.

No	Categories of class room observation	High	Average	Low
1	The teacher use easy/simple method to express his/ her ideas in sign language	✓		
2	The classroom environment to use sign language	✓		
3	Teaching aid material is available	✓		
f4	Learner participation	✓		
5	The teacher ability to fulfill total communication	✓		
6	Learners participation in the classroom activity	✓		
7	Reading and signing skill of the teacher	✓		
8	Reading and signing skill of the learners	✓	✗	
9	Learners use textbooks prepared for instructional	✓		

	language			
10	Sign language is used throughout the lesson	✓		

Observation checklist section A
Observational protocol

Topic of study: Natural Sciences - Describing Materials

Classroom nr: _____

Time of observation: 11:40

Length of observation: _____

DESCRIPTIVE FIELDNOTES	REFLEXIVE FIELDNOTES
Classroom checklist: ☑ Sign language posters ☐ Teaching and learning aid ☐ Sign language teaching and learning **Participants** NS teacher and nine learners **Class lesson** NS— Describing Material **Strategies:** teacher Learner Centered, Projector **Knowledge of SASL:** The teacher is fluent and qualified in SASL **Communication in SASL:** The teacher communicates in SASL	Learners are describing materials in NS subjects The teacher is actively Involved in a lesson and allowed learners to participate in describing materials "Block, Water and air" was described by the learners using sign Language practically to describe materials. After the lesson the learners watched the teacher practically explains materials and using a bottle with drink and Sanitizer. The lesson was made simple to learners and it was Practical throughout the lesson. Classwork was given to learners

Activities

—Learners were introduced to the lesson "Describing material in Sign language
—They were given handouts to use as an activity
—They cut and paste the handouts to their N5-books. before they continue with the lesson,
—The lesson continues and the teacher

The lesson continues and learners are listening watching her teaching but she is using sign language while talking at the sametime, li The teacher is practical in her lesson and involve her learners in all lessons

Concluding comments or remarks

The teacher made use of total communication

![University of Pretoria coat of arms]

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI TA PRETORIA

Faculty of Education

Department of Educational Psychology
Learner Support Guidance and Counselling
**Observation checklist section B**

Introduction: this observation checklist is prepared for data related to investigating sign language challenges encountered by Deaf learners, in using sign language in the process of learning and teaching, in one of the primary schools in Tshwane.

Date... 18.../.09./.2020-

a). Name of the school ████████████████████████

b) Name of the teacher...

c) Name of the observer. Sinenhlanhla Dlamini

d) Subject observed... Natural Sciences

e) Grade and section observed... 6 — NS

f) Number of learners... Nine learners

g) Time observation begin at ..11:40 ... to 12:15

h) Lesson topic.. Describing Material ●

No	Categories of class room observation	High	Average	Low
1	The teacher use easy/simple method to express his/ her ideas in sign language	✓		
2	The classroom environment to use sign language	✓		
3	Teaching aid material is available	✓		
f4	Learner participation		✓	
5	The teacher ability to fulfill total communication	✓		
6	Learners participation in the classroom activity			
7	Reading and signing skill of the teacher	✓		
8	Reading and signing skill of the learners	✓		
9	Learners use textbooks prepared for instructional	✓		

| 10 | language
Sign language is used throughout the lesson | | | | |
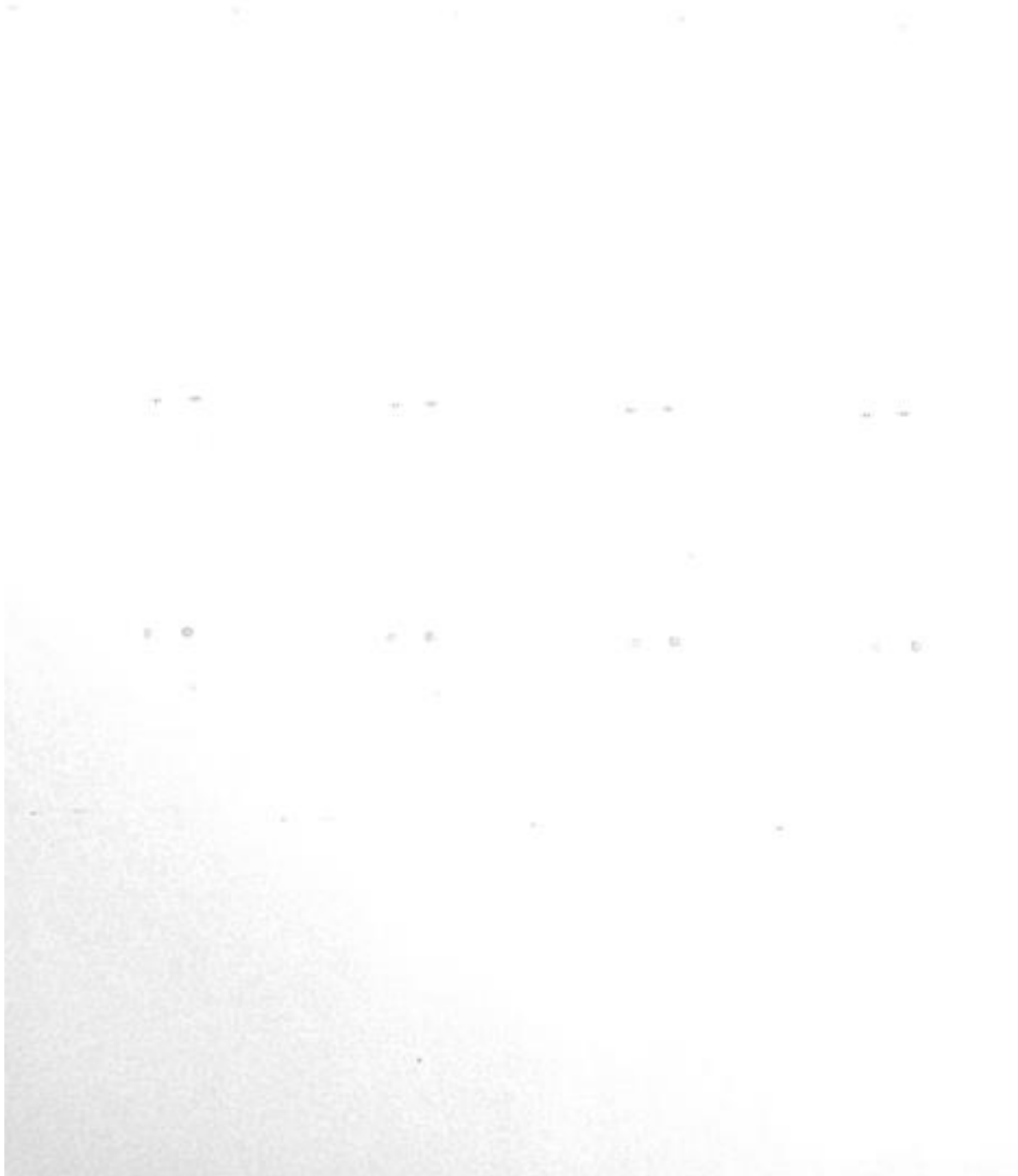
Appendix F: Excerpts of transcriptions from interviews

Excerpts from interview with parent A (LINE 1-297)

287) interviewer: so when you are in the field as a coach you still have to use sign language?

288) interviewee: Yes they also use sign language with each other with their team mate, that's

why I am saying go and experience.

289) interviewer: Ya I need to see

290) interviewee   : You must go and see it is an experience.

291) interviewer: I am sure with the hearing team they will be amazed with how they Deaf are

Communicating.

292) interviewee : Yes it's like a secret code

293) interviewer: even when they are gossiping about them the hearing they can't see because they

Don't understand sign language so when in sport it makes them feel more accommodated

294) interviewee   : YES, Exactly

295) interviewer: thank you so much Mam thanks I think we are done

296)   interviewee: Are you sure, let me know anytime if you need help I will assist you.

297) interviewer : oh yes we are done thank you so much

Excerpts from interview with parent B (LINE 298-351)

337) Interviewee: I do encourage her.

338) Interviewer: Thank you so much Mama I think I have got all the answers for that questions I had, and The background that I needed in terms of Deaf learners learning sign language and difficulties but besides the language issue. Would you say it is easy or difficult and expensive to raise A Deaf child?

339) Interviewee: it is expensive because their schools are not local like where we live, them transport.

340) Interviewer: you stay at ▮▮▮▮ right?

341) Interviewee: Yes.

342) Interviewer: what does she use to go to school?

343) Interviewee: She uses a bus it started picking her around March.

344) Interviewer: ohk so the maintenance of going to school is the one that is expensive right?

345) Interviewee: Yes

346) Interviewer: so as you said that she isolates herself sometimes, so it means she fills isolated at times When her friends don't explain what they are saying?

347) Interviewee: Yes, she feels like that and isolate herself.

348) Interviewer; so in the house do you always make sure that you accommodate her when talking?

349) Interviewee: Yes all the time so that she feels accommodated.

350) Interviewer: No mama thanks you so much those were the questions I will write everything Down and summarise.

351) Interviewee: Thank you.

Excerpts from interview with parent C (LINE 352-395)

other People since he was born he has never had some issues with people.

387) Interviewer: does he watched television those programs?

388) Interviewee: yes, he does read sub titles but if they don't write he ask what are they saying. And if They don't write sub titles he questions that why they don't write Gogo. And would tell Him I don't know my child.

389) Interviewer: it means he feels sadden if they don't write because he can't follow what is Happening?

390) Interviewee: Yes and when we laugh he wonders because there are not sub titles.

391) Interviewer: so thank you Gogo I think we are done.

392) Interviewee: Yes thanks my child and I wish they can add more hands on skill work to them so that Even when the child doesn't finish school but he can still have a skill he can use to work For himself.

393) Interviewer: that is a very good point Gogo I will note it down, and it is true so that even if a child doesn't reach a tertiary but would have a skill to use to make a living.

394) Interviewee: Yes my child that would really work because he shares his dreams with me that one day He would buy me a big house, buy himself a car and get married.

395) Interviewer: Ya ne that's great Gogo, thank you so much for sharing this information with me.

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Excerpts from interview with parent D (LINE 396-440)

432) Interviewer: va|ne giving her that psychological support and to make her feel accommodated.

433) Interviewee: Yes.

434) Interviewer: how is she at school? Is she coping with subjects?

435) Interviewee: she is doing good in everything subjects, and she doesn't mix herself much with

boy   She is very focused. She said she want to study and own a big house and a car, so she

Really encourages me she even takes care of me knowing very well when must I take

My medication, she assists in the house as well she is hands on. As parents she give us

More effort in supporting her.

436) Interviewer: How do you think your child cope with being Deaf?

437) Interviewee: she is good she has accepted herself so much that she has adapted in everything

and   Through the support we are giving her so I sometimes talk to her share my problems

With her. She even told me she wants to be a Doctor, although at school they do advise

They on courses they must do. So I support her in everything and her dream but she is a

Good child.

438) Interviewer: thank you so much for your time Ma. Your information was informative.

439) Interviewee: One opinion I have is that at schools they need to prolong the sessions offered

To parents in learning sign language like give them more time to learn more training.

440) Interviewer: thank you I will note it down.

Excerpts from interview with parent E (LINE -441-459)

443) Interviewer: what were the signs that made you discover that she is Deaf?

444) Interviewee: it is because she was already 3years and she was not talking and not
responding

445) Interviewer: When you took her to the child to a health specialist what did they say or
Discover?

446) Interviewee: they discovered that the right ear is damaged and not working and the
other One hears but hearing from very far.

447) Interviewer: the damage of the ear was she born with it or?

448) Interviewee: Yes she was born with it.

449) Interviewer: did they advise you on what to do?

450) Interviewee: No they only said she needs to wear the hearing aids.

451) Interviewer: does she has them, hearing aids?

451) Interviewer: Yes she does but I can say she no longer has them because one hearing aid is
damaged   And no longer working.

452) Interviewer: How did this discovery affect your family?

453) Interviewee: we were affected and decided to take her to the school for the Deaf.

454) Interviewer: Do you have any family member that is Deaf?

456) Interviewee: No we don't have that history.

457) Interviewer: but how did the family treat her after they knew she was Deaf?

458) Interviewee: they didn't have much time with her because most of the time she was at school,
But when she is back they welcomed her in a good manner, problem are neighbours
They don't treat her right.

459)Interviewer: are they mistreating her maybe just because they cannot communicate with her or?

Excerpts from interview with parent F (LINE -460-499)

They can just make her do practical skills on working with hands once because she is 15

Years, even her hand writing is horrible. Problem she is also cheeky so when she feels like

Not writing she doesn't want to write if being told. Shes is very cheeky and is not like she

Is the only Deaf child because she is cheeky and lazy, her homework she would never pay

Attention on them.

493)Interviewer: Does she struggle to all subjects or in some maybe in Maths she is better?

494) Interviewee: with Maths she is worse, she can't even construct a sentence or give answer to

simple   Questions that does not need to much of mind pondering, she can't even use a

calculator   If you can see her Maths book it is a mess she even failed it on the report.

495) Interviewer: Have you tried to sit down with her and try to understand why she is behaving like

that?

496) Interviewee: we have tried problem she is stubborn if she doesn't want to do something she

Doesn't   Want in a way that she is also violent she is dangerous even in a family that she

even   Threaten to kill them. She has suicidal thoughts and actions. She even breaks things in

the   House once she gets angry.

497) Interviewer: so if you try to talk it out what does she do?

498) Interviewee: she doesn't respond even if you try she will never respond at all we just perceiver

Because she is our child even at school they are aware of the situation in a way that they

Said they think she has mental disorder, and I know it is not that she is just stubborn and

Naughty.

499) Interviewer: so you have never tried to take her to social workers or health specialist for help?

Excerpts from interview with learner A (LINE -1-20)

1) Interviewee: I want to be a doctor

2) Interviewer: which language do you use at home?

3) Interviewee: sign language I am stone Deaf. (interpreted)

4) Interviewer: which language do you prefer to use?

5) Interviewee: at home sign language and sesotho

6) Interviewer: do you have hearing friends and how do you communicate with them?

7) Interviewee: Yes, I use natural signs that they can understand and sometimes point at this
    (interpreted).

8) Interviewer: where and how did you learn sign language?

9) Interviewee: at school (interpreted).

10) Interviewer: Do you think your parents can understand sign language?

11) Interviewee: Yes (interpreted).

12) Interviewer: how does your parents support you in using sign language?

13) Interviewee: my parents do attend some lessons for sign language (interpreted).

14) Interviewer: what was the most difficult thing for you learning sign language?

15) Interviewee: it was learning English signing, learning the non-features manual of signing
    and Sign language structure (interpreted).

16) Interviewer: what do you find difficult in using sign language?

17) Interviewee: very easy it is my first language (interpreted).

18) Interviewer: what do you find easy in using sign language?

19) Interviewee: using hands and my body (interpreted)

20) Interviewer: what do you think hearing people need to understand about being Deaf?

21) Interviewee: I wish they could understand that I have a barrier.

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Excerpts from interview with learner B (LINE-22-43)

22) *Interviewer: tell me something about yourself. for example what do you like, don't like,*

   what Do you want to be when you grow up?

23) *Interviewee: A Nurse (interpreted)*

24) *Interviewer: which language do you use at home?*

25) *Interviewee: Ndebele (interpreted)*

26) *Interviewer: which language do you prefer to use?*

27) *Interviewee: sign language (interpreted)*

28) *Interviewer: do you have hearing friends and how do you communicate with them?*

29) *Interviewee: yes I have and they use hearing sign (interpreted)*

30) *Interviewer: where and how did you learn sign language?*

31) *Interviewee: at school*

32) *Interviewer: Do you think your parents can understand sign language?*

33) *Interviewee: partially*

34) *Interviewer: how does your parents support you in using sign language?*

35) *Interviewee: no support*

36) *Interviewer: what was the most difficult thing for you learning sign language?*

37) *Interviewee: learning English signing and sign language structure (interpreted)*

38) *Interviewer: what do you find difficult in using sign language?*

39) *Interviewee: learning non features manual of sign language (interpreted)*

40) *Interviewer: what do you find easy in using sign language?*

41) *Interviewee: using my body language like hands and face*

42) *Interviewer: what do you think hearing people need to understand about being Deaf?*

43) *Interviewee: I wish that hearing people can be part of our Deaf world and learn signing.*

Excerpts from interview with learner C (LINE -44-65)

45) *Interviewee: an engineer (interpreted)*

46) *Interviewer: which language do you use at home?*

47) *Interviewee: I use isiZulu and sign language at home (interpreted)*

48) *Interviewer: which language do you prefer to use?*

49) *Interviewee: Sign language (interpreted)*

50) *Interviewer: do you have hearing friends and how do you communicate with them?*

51) *Interviewee: yes, they lip read me because I am of hard hearing (interpreted)*

52) *Interviewer: where and how did you learn sign language?*

53) *Interviewee: I started learning sign language at school (interpreted)*

54) *Interviewer: Do you think your parents can understand sign language?*

55) *Interviewee: Yes*

56) *Interviewer: how does your parents support you in using sign language?*

57) *Interviewee: my parents are very supportive in a way that they take extra classes here in my School to learn sign language (interpreted)*

58) *Interviewer: what was the most difficult thing for you learning sign language?*

59)*Interviewee: telling a story in sign language (interpreted)*

60) *Interviewer: what do you find difficult in using sign language?*

61) *Interviewee: learning sign language structures (interpreted)*

62) *Interviewer: what do you find easy in using sign language?*

63) *Interviewee: Sign language is difficult for me (interpreted)*

64) *Interviewer: what do you wish hearing people need to understand about being Deaf?*

65) *Interviewee: I wish hearing people can understand the Deaf world and sign language.*

Excerpts from interview with learner D (LINE-66-87)

66) *Interviewer: tell me something about yourself. for example what do you like, don't like,*

        what   Do you want to be when you grow up?

67) *Interviewee: not sure (interpreted)*

68) *Interviewer: which language do you use at home?*

69) *Interviewee: Sepedi and natural sign language (interpreted)*

70) *Interviewer: which language do you prefer to use?*

71) *Interviewee: I prefer sign language (interpreted)*

72) *Interviewer: do you have hearing friends and how do you communicate with them?*

73) *Interviewee: No I don't have one.*

74) *Interviewer: where and how did you learn sign language?*

75) *Interviewee: I learn at school (interpreted)*

76) *Interviewer: Do you think your parents can understand sign language?*

77) *Interviewee: yes*

78) *Interviewer: how does your parents support you in using sign language?*

79) *Interviewee: Yes my parents sign with me every time (interpreted)*

80) *Interviewer: what was the most difficult thing for you learning sign language?*

81) *Interviewee: learning sign language structure (interpreted)*

82) *Interviewer: what do you find difficult in using sign language?*

83) *Interviewee: sign structures (interpreted)*

84) *Interviewer: what do you find easy in using sign language?*

85) *Interviewee: using my hands and facial expression*

86) *Interviewer: what do you wish hearing people need to understand about being Deaf?*

87) *Interviewee: I wish they can know we are normal just that we don't talk (interpreted)*

Excerpts from interview with learner E (LINE-88-109)

88) Interviewer: tell me something about yourself. for example what do you like, don't like,

what   Do you want to be when you grow up?

89) Interviewee: not sure

90) Interviewer: which language do you use at home?

91) Interviewee: Afrikaans (interpreted)

92) Interviewer: which language do you prefer to use?

93) Interviewee: Sign language

94) Interviewer: do you have hearing friends and how do you communicate with them?

95) Interviewee: No

96) Interviewer: where and how did you learn sign language?

97) Interviewee: I learned it at school.

98) Interviewer: Do you think your parents can understand sign language?

99) Interviewee: yes they do understand (interpreted)

100) Interviewer: how does your parents support you in using sign language?

101) Interviewee: by signing with me when I do not understand a word in Afrikaans.

102) Interviewer: what was the most difficult thing for you learning sign language?

103) Interviewee: learning sign language structure.

104) Interviewer: what do you find difficult in using sign language?

105) Interviewee: to always have to face a person when talking (interpreted)

106) Interviewer: what do you find easy in using sign language?

107) Interviewee: my body language (interpreted)

108) Interviewer: what do you wish hearing people need to understand about being Deaf?

109) Interviewee: wish they can all learn our sign language.

what Do you want to be when you grow up?

111) Interviewee: mhmhm not sure..

112) Interviewer: which language do you use at home?

113) Interviewee: isiZulu sign language

114) Interviewer: which language do you prefer to use?

115) Interviewee: sign language

116) Interviewer: do you have hearing friends and how do you communicate with them?

117) Interviewee: Yes, I communicate with them in Zulu (interpreted)

118) Interviewer: where and how did you learn sign language?

119) Interviewee: I learned it at school (interpreted)

120) Interviewer: Do you think your parents can understand sign language?

121) Interviewee: a little bit

122) Interviewer: how does your parents support you in using sign language?

123) Interviewee: my parents they use natural signing but they talk Zulu (interpreted)

124) Interviewer: what was the most difficult thing for you learning sign language?

125) Interviewee: learning English signing, non-features manual of signing and sign
            Language Structure.

126) Interviewer: what do you find easy in using sign language?

127) Interviewee: using my hands and body to pass the message. (interpreted)

128) Interviewer: what do you wish hearing people need to understand about being Deaf?

129) Interviewee: I wish that sign language can be an official language and taught in all
         school Even the mainstream, so that everyone will be able to communicate with me
         And get help everywhere and anytime.

Excerpts from interview with teacher A (LINE-1-29)

17) Interviewer   : Describe Deaf learners' behaviour towards learning sign language in the |.

               Classroom.

18) Interviewee   : They do well. The SASL to them is challenging but they still continue to learn.

19) Interviewer   : What techniques or teaching strategies do you use to keep learners interested in

               Learning your subjects using sign language?

21) Interviewee : visual learning and practical learning helps a lot.

22) Interviewer   : how do you identify Deaf learners with a sign language learning barrier?

23) Interviewee : The pace of completing the work sometimes determines the barrier the learners

               Ability.

24) Interviewer : How does sign language acquisition affect Deaf learners academically?

25) Interviewee : When they fail to understand reading instructions.

26) Interviewer : How do you support Deaf learners with sign language learning barrier?

27) Interviewee : Giving them extra time and one-on-one intervention.

28) Interviewer : feel free to add any recommendation or information you feel was left out to the

               Questions related to challenges.

29) Interviewee : Deaf learners have the ability to do almost everything. They are very skilled and

            very   Practical rather than being stereo typed to the normal academic curriculum.

Excerpts from interview with teacher B (LINE 30-57)

45) Interviewee   : when teaching them using visual material and using your technology equipments
to Look for more visual materials.

46) Interviewer   : Describe Deaf learners' behaviour towards learning sign language in the
classroom

47) Interviewee   : Interesting because it is their own language and when expressing themselves
using Non-manual features.

48) Interviewer   : What techniques or teaching strategies do you use to keep learners interested in
Learning your subjects using sign language?

49) Interviewee : Posters and Google app.

50) Interviewer : how do you identify Deaf learners with a sign language learning barrier?

51) Interviewee : when giving them formal assessments and they are unable to answer or follow
Instructions when answering questions.

52) Interviewer : How does sign language acquisition affect Deaf learners academically?

53) Interviewee : they are affected by that they language sign language they cannot use it in all
subjects Taught so they need to be good in both sign language and English, some struggle
alot   Academically due to language.

54) Interviewer   : How do you support Deaf learners with sign language learning barrier?

55) Interviewee : Extra classes, one-on-one and individual teaching.

56) Interviewer   : feel free to add any recommendation or information you feel was left out to the
Questions related to challenges.

57) Interviewee |: parental involvement- is a barrier because parents cannot help their children with
Their homework and other school projects, also if Deaf learner is staying with the
Grandmother/father who is illiterate and it becomes a challenge. Deaf child-finds him/
Herself at home with all hearing people and no one is willing to learn his/her language
Ends up lonely for the rest of his/her life

the   Learners seem to be excited or loss interest/focus.

75) Interviewer   : What techniques or teaching strategies do you use to keep learners interested in

Learning your subjects using sign language?

76) Interviewee : Use visual strategies eg. PowerPoints, or signed DVDs.

77) Interviewer   : how do you identify Deaf learners with a sign language learning barrier?

78) Interviewee : The learner when is unable to answer what asking, the learner may be unable to

sign correctly.

79) Interviewer : How does sign language acquisition affect Deaf learners academically?

80) Interviewee : they are affected by that they language sign language they cannot use it in all

subjects Taught so they need to be good in both sign language and English, some will use sign

Language English in answering questions for the written subjects.

81) Interviewer   : How do you support Deaf learners with sign language learning barrier?

82) Interviewee : Provide extra classes and create more accessible resources.

83) Interviewer   : feel free to add any recommendation or information you feel was left out to the

Questions related to challenges.

84) Interviewee   : nothing thanks.

Excerpts from interview with teacher D (LINE 85-110)

101) Interviewer   : What techniques or teaching strategies do you use to keep learners interested in
          Learning your subjects using sign language?

102) Interviewee : I use visuals more than written work. Deaf people are generally visual people not
        only   The learners. Therefore, to maintain and store information quicker and effectively I
        Use examples which relate to them and their knowledge, I use materials and objects
        To demonstrate.

103) Interviewer   : how do you identify Deaf learners with a sign language learning barrier?

104) Interviewee   : it a child takes long to understand/ does not receive instructions accordingly.
        they   Oath to be assessed. The problem may be the teaching method hence the learner
        Must be assessed to see where the problem lies.

105) Interviewer : How does sign language acquisition affect Deaf learners academically?

106) Interviewee : if the learner has a barrier that will obviously affect their understanding and
        relating What is being taught to their prior knowledge.

107) Interviewer   : How do you support Deaf learners with sign language learning barrier?

108) Interviewee : I use pidgin Language. I incorporate spoken with sign depending on the learner's
        Level of signing. I also use total communication or spoken sign until the learner gets a grip
        OF   What is meant to be learnt or until the learner can use full SASL.

109) Interviewer   : feel free to add any recommendation or information you feel was left out to the
        Questions related to challenges.

110) Interviewee |: Thank you.

Excerpts from interview with teacher E (LINE 111-136)

124) Interviewee : home language Day to day communication.

125) Interviewer : Describe Deaf learners' behaviour towards learning sign language in the classroom.

126) Interviewee : they love it/use it in all their activities and interaction at all times.

127) Interviewer : What techniques or teaching strategies do you use to keep learners interested in Learning your subjects using sign language?

128) Interviewee : keeping the learners' attention captured throughout.

129) Interviewer : how do you identify Deaf learners with a sign language learning barrier?

130) Interviewee : less developed communication skills.

131) Interviewer : How does sign language acquisition affect Deaf learners academically?

132) Interviewee : poor acquisition results in poor learning.

133) Interviewer : How do you support Deaf learners with sign language learning barrier?

134) Interviewee : extra –lesson at their own pace and individuals' ability.

135) Interviewer : feel free to add any recommendation or information you feel was left out to the Above questions related to challenges

136) Interviewee : Language is power –A person without language is seriously, and very negatively Disempowered.

Excerpts from interview with teacher F (LINE 137-194)

189) *Interviewer: so even if they use sign language so when they have to write which English they use*

the one for English or the one for sign language?

190) *Interviewee: oh yes they will mx and write an English for sign language so as a teacher you will*

Understand what the learner has written like maybe an essay.

191) *Interviewer : you mentioned something about Deaf learners who come to enrol at school with*

no Background of sign language, so is it the case with the most Deaf learners? That they

Come to school and they start learning sign language at school?

192) *Interviewee : Yes the majority of them, remember the families don't know sign language so*

that Why they get the sign language at school through the peers it is not me who is giving

The sign language I give the teachers through the sign language but with the peers

When they meet share they learn sign language through that. So they don't have the

Background from home their mothers are talking they don't know how to sign but

They are using natural gestures. So until when they come to school when they meet

The other Deaf then they talk and talk and then they learn from them.

193) *Interviewer : Ohk ok. No thank you so much Mam we are done I will just compile the report the*

way You have explained and then I will write it down.

194) *Interviewee : ok and then I will send you the number of the other parents*

Appendix G: Field notes

1) I arrived in the site after break as arranged and agreed with the principal and

2) HOD, in order not to interrupt the morning sessions of learning. After break I then

3) was ushered to classes where lessons observation will take place and along the

4) corridors I noticed Deaf learners playing and chatting using sign language, I then

5) explained to the teachers that I will be a complete observer, observing the lessons

6) using observation checklist and writing field notes of what I have observed during

7) teaching and learning with regards to sign language.

8) The first subject that was observed was of NS/Tech subject, the teacher was

9) teaching about describing materials, she made use of sign language and also total

10) communication using a projector and handouts to teaching learners. Learners

11) were responding to her questions using a complete sign language and

12) describing material pointed by the teacher to the projector in signs. Learners

13) seemed to be enjoying the lesson with full participation.

14) I then when on to the second class for Mathematics the teacher was teaching

15) about Addition social and I observed within the classroom the use of

16) whiteboard marker and colourful Maths posters on the wall. The teacher is Deaf

17) so she made use of a complete sign language during teaching and learning. I

18) noticed that each learner has his or her own small white board marker where

19) they do their calculations also and give the answers to the teacher, they were

20) also using the white board marker of the teacher to go and write answers, the

21) participation was observed to be exciting and all learners were enjoying raising

22) hands and participating throughout the lesson using sign language.

23) The final lesson observed was on social sciences, lesson was well introduced

24) using sign language, the teacher used sign language throughout the lesson and

25)she was teaching about Ancient African, Egypt society. She used a projector to
26) show the writings and pictures of Egypt such as Nile river, Pyramid and so on to
27) keep learners interested in the lesson and in order for them to understand as I
28) have observed that Deaf learners learn and understands better when they can
29) see visually of what is being taught in class. A teacher would give them few
30)minutes to rest their eyes then carry on with the lesson. Learners participated
31)throughout the lesson and they were also asking questions using sign language.

32) At the end of the three lesson observations, I also had a chance to ask questions
33) to the teachers regarding what was observed and the reason for keeping lesson
34) very short as I have observed three completed 20 minutes' lessons. Teachers
35) explained that Deaf learner cannot concentrate in a lesson for a longer time and
36) they get bored easily, therefore to keep up with the lesson 20 minutes is enough
37) to introduce the lesson, teach and complete an activity. When I asked for clarity
38) regarding the use of total communication, the teacher indicated that in the class
39) learners are mixed, those who are completely Deaf and those who are hard of
40) hearing. Therefore, those who are hard of hearing can easily lip read when a
41)teacher explains verbally. I enjoyed and obtained an insight information of what
42) happens in the classroom and which language is mostly used to teach Deaf
43)learners of which was sign language and English. The findings contributed to the
44) to my research study.