

**TEACHERS' PRACTICE IN DEVELOPING VISUALLY IMPAIRED LEARNERS'
READING SKILLS IN THE JUNIOR PRIMARY PHASE IN NORTHERN NAMIBIA**

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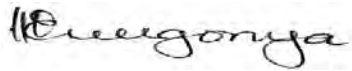
By

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JUNE 2022

DECLARATION

I, Elizabeth Nangula Nuugonya, hereby declare that this thesis is my own original work, that all reference sources have been accurately reported and acknowledged, and that this document has not previously, in its entirety or part, been submitted to any University in order to obtain an academic qualification.



ELIZABETH N. NUUGONYA

29 June 2022

Abstract

Namibia has adopted, ratified and followed several international policies on disability and inclusive education including the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD). Since 2014, the Namibian education system has been working towards the implementation of the Sector Policy on Inclusive Education to promote an education system that is accessible, inclusive, equitable and of good quality (Namibia. Ministry of Education, Arts and Culture: Sector Policy on Inclusive Education, 2013). The policy aims to address barriers faced by learners with disabilities and how teachers develop ways of teaching that respond to the individual differences. Reading in a second language tends to develop more slowly by visually impaired learners, although the Junior Primary Phase syllabus promotes equal opportunity for all learners to participate in reading equally irrespective of learners' disabilities. Teachers should understand how to teach and accommodate learners who are visually impaired and all reading materials should be fit for purpose and support these learners appropriately. Thus, this study explores how Junior Primary teachers develop visually impaired learners' reading skills to provide accessible education to them.

Learning to read is challenging for most learners, but even more for learners who are visually impaired. Learning to read braille is a complex process, far more than reading print texts. This study seeks to examine how learners are taught to read using braille in a school for visually impaired learners in Namibia, Oshana region. The motivation for this research study was twofold - firstly, my interest in the development of reading skills with visually impaired learners was aroused by my teaching experience. Secondly, due to my realisation that the area was under-researched in Namibia; I wanted to fill the existing gap in the development of reading skills in braille and print.

The study critically engaged teachers to help me obtain an understanding of how they develop reading instructions with visually impaired learners and the factors that enabled the development of braille literacy and the challenges that hampered the development of reading skills.

The study took the qualitative case study approach underpinned by an interpretivist orientation. Data was collected using semi-structured observation during reading lessons and focus group

interviews. The Theory of Practice Architectures (ToPA) was used as a lens to analyse the promoting and constraining factors in teaching visually impaired learners reading skills.

The study found that teachers used different reading methods to promote the development of reading skills such as reading aloud, tactile methods and phonics. The study further noted that teachers mostly created their own reading materials due to the lack of reading materials and reading books printed in braille. Although learners were supported during reading, the challenge of developing reading skills with visually impaired learners remains a challenge. I hope that the findings from this research study strengthen the development of reading skills in all special schools and contribute to the creation of knowledge on the development of reading skills with visually impaired learners in Namibia. As a means to further support learners who experience visual impairments, this study recommends that more formative research studies on the notion of teachers' practice in developing reading skills with visually impaired learners should be conducted to bring about change.

Acknowledgements

“Do not fear, because I am with you; do not be afraid, for I am your God. Declares the Lord, I will strengthen you, I will surely help you; I will hold you with my righteous strong hand” (Isaiah 41:10). I thank the almighty Lord for his guidance, protection and love that followed and lead me throughout my research journey. Glory to God!

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- My siblings, my parents and the entire family especially Aunty-Masiku, thank you for all you have done.

Dedication

This study is dedicated to my loving children. You are the reason I pursued this Master's degree. I wanted to set an example that you can emulate. Always strive to reach your potential. It is my wish that you grow up into responsible and productive citizens of our country. "Commit to the Lord whatever you do, and he will establish your plans" (Proverbs 16:3).

To my loving husband David (partner Zange) I dedicate this thesis to you for being my biggest inspiration.

It is also dedicated to my parents and my inspirational grandmother, Maria Ankonga (1912 -2022) for instilling the love of education in me and for allowing me to make my own choices in life.

TABLE OF CONTENTS

Declaration..... i

Abstract..... ii

...

Acknowledgements..... iv

...

Dedication..... v

...

Table of Contents..... vi

Acronyms.....

...

List of Figures..... xii

List of Tables..... xiii

CHAPTER 1

ONE..... 1

OVERVIEW OF THE STUDY..... 1

1.1 Introduction..... 1

....

1.2 Contextual Background..... 1

1.3 Research interest and motivation for this study..... 3

1.4 Research goals..... 3

1.5	Research questions and value of this study.....	3
1.6	Conceptual Framework.....	4
1.7	Theoretical Framing of the Study.....	6
1.8	Research site and participants.....	6
1.9	Clarification of concepts.....	7
1.10	Thesis Outline.....	8
	CHAPTER TWO.....	10
	LITERATURE REVIEW.....	10
2.1	Introduction.....	10
	
2.2	Unpacking the key concepts in this study.....	10
2.2.	Disability.....	10
1	
2.2.	Visual impairment.....	10
2	
2.2.	Blindness.....	11
3	
2.2.	Low vision.....	12
4	
2.3	How braille reading came about.....	12

2.3.	The importance of understanding braille	14
1	literacy.....	
2.3.	Uncontracted	14
2	braille.....	
2.3.	Contracted	16
3	braille.....	
2.4	The development of reading skills with visually impaired	18
	learners.....	
2.4.	Phonemic	19
1	Awareness.....	
2.4.	Phonics.....	20
2	
2.4.	Reading	21
3	comprehension.....	
2.4.	Vocabulary.....	22
4	...	
2.4.	Fluency.....	23
5	...	
2.5	Teaching methods in developing reading skills with visually impaired	25
	learners.....	
2.6	Challenges of developing reading skills in	28
	braille.....	
2.7	Conclusion.....	30
	..	
CHAPTER THREE.....		31
THEORETICAL FRAMEWORK.....		31
3.1	Introduction to the	31
	theory.....	
3.2	Arrangements within the Theory of	33
	practice.....	

3.3	Unpacking the concept of 'Praxis'	34
3.4	Unpacking the concept of 'Practice'	35
3.5	The semantic space of developing reading instruction with visually impaired learners.....	37
	...	
3.6	The physical space of developing reading skills with visually impaired learners.....	37
3.7	The social space of developing reading skills with visually impaired learners.....	38
3.8	Three dimensions within the Theory of Practice Architectures.....	38
3.9	Conclusion.....	39
	.	
	CHAPTER	40
	FOUR.....	
	RESEARCH	40
	METHODOLOGY.....	
4.1	Introduction.....	40
	
4.2	Aims and Research questions.....	40
4.3	Research orientation.....	40
4.4	Case study.....	41
4.5	Research site.....	42
4.6	Participants and sampling.....	42

4.7	Research Instruments/Data generating tools.....	43
4.8	Observation.....	43
4.9	Interviews.....	44
4.10	Focus group interview.....	44
4.11	Data Analysis.....	45
4.12	Validity, trustworthiness and triangulation.....	46
4.13	Positionality.....	47
4.14	Ethical consideration.....	48
4.15	Conclusion.....	48
	..	
	CHAPTER FIVE.....	50
	PRESENTATION AND DISCUSSION OF FINDINGS.....	50
	SECTION ONE.....	50
5.1	Introduction.....	50
5.2	Classroom Observation.....	52
5.2.	Seating	52
1	arrangements.....	

5.2.	Reading	54
2	corners.....	
5.2.	Reading	56
3	rules.....	
5.3	Reading	57
	Materials.....	
5.4	How reading skills concepts are developed.....	58
5.4.	Phonemic	58
1	awareness.....	
5.4.	Phonics.....	59
2	...	
5.4.	Reading	59
3	comprehension.....	
5.4.	Vocabulary.....	60
4	..	
5.4.	Fluency.....	61
5	...	
5.4.	How learners are supported during reading lessons.....	61
5.4.	Reading methods that promote braille reading.....	63
7		
5.5	Challenges experienced during reading lessons.....	64
5.5.	Braille reading	64
1	resources.....	
5.5.	Phonics.....	64
2	...	
5.5.	Braille	65
3	letters.....	

5.5.	Curriculum.....	66
4	..	
5.6	Conclusion.....	66
	..	
SECTION		68
TWO.....		
5.7	The Practice Architectures of developing reading skills with VIL.....	68
5.7.	Introduction.....	68
1	
5.7.	Discussion of OBN lesson on developing reading skills - Phonemic awareness.....	68
2		
5.7.	Discussion of OBN on developing the reading skills – Phonics.....	71
3		
5.7.	Discussion of OBN on developing the reading skills - Reading Comprehension.....	74
4		
5.7.	Discussion of OBN on developing the reading skills – Fluency.....	76
5		
5.7.	Discussion of OBN on developing the reading skills – Vocabulary.....	78
6		
5.7.	Summary Discussion of enabling and constraining factors through ToPA.....	80
7		
5.8	Key features of the ‘Sayings’.....	81
5.9	Cultural discursive arrangements that influenced the lessons.....	81
5.10	Key features of the ‘doings’.....	82
5.11	The ‘doings’ were shaped and influenced by material-economic arrangements.....	83

5.12	Key features of 'relatings'	84
5.13	Social political arrangements.....	85
5.14	Conclusion.....	86
	.	
	CHAPTER	87
	SIX.....	
	RECOMMENDATION AND	87
	CONCLUSION.....	
6.1	Introduction.....	87
	
6.2	Summary of the Key research findings.....	87
6.2.	Classroom seating	87
1	arrangements.....	
6.2.	Reading	88
3	materials.....	
6.3	How are reading skills developed.....	89
6.3.	Phonics.....	89
1	...	
6.3.	Reading	89
2	comprehension.....	
6.3.	Vocabulary.....	90
3	...	
6.3.	Fluency.....	90
4	
6.4	Factors that promoted reading skills.....	90

6.5	Factors constraining the development of reading skills with VI Learners.....	91
6.6	The significance of my study.....	92
6.7	The significance of using ToPA in my study.....	93
6.8	Recommendation for good practice.....	93
6.9	Recommendation for further research.....	94
6.10	Limitation of the study.....	95
6.11	Personal reflection.....	96
6.12	Conclusion.....	96
	...	97
	REFERENCES.....	10
	..	6
	APPENDICES.....	10
	..	6
	Appendix A: Consent letter for teachers.....	10
		8
	Appendix B: Consent letter for parents.....	11
		0
	Appendix C: Permission seeking letter to the Director.....	11
		2
	Appendix D: Observation sheet schedule.....	11
		3
	Appendix E: Focus group interview questions.....	11
		4

Appendix F: Ethical Clearance letter from Rhodes University.....	11
Appendix G: Permission letter from the Director.....	5

LIST OF FIGURES

Figure 1: Braille cell with numbered cell.....	13
Figure 2: Uncontracted Braille.....	14
Figure 3: Contracted Braille.....	16
Figure 4: Uncontracted Braille Grade 1 and Grade 2 contracted Braille.....	17
Figure 5: Braille Cells.....	26
Figure 6: Alphabetical letters in braille and print.....	26
Figure 7: Braille Materials.....	27
Figure 8: The media and spaces in which the ‘sayings’ ‘doings’ and ‘relatings’ exist..	31
Figure 9: The theory of Practice Architecture.....	36
Figure 10: A picture of the Colour Coding of the Data.....	46
Figure 11: Junior Primary Phase seating arrangements.....	53
Figure 12: Reading corners.....	55
Figure 13: Visually Impaired Learners reading a story.....	73
Figure 14: Teacher providing support to a blind learner.....	73
Figure 15: Learners assisting each other in reading.....	84

Figure 16: Teacher assisting learners during reading activity.....	84
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LIST OF TABLES

Table 1: Codes for data sources enabling data management.....	51
Table 2: Practice architectures of developing reading skills - Phonemic awareness...	68
Table 3: Practice architectures of developing reading skills – Phonics.....	71
Table 4: Practice architectures of developing reading skills – Reading Comprehension.....	74
Table 5: Practice architectures of developing reading skills – Fluency.....	76
Table 6: Practice architectures of developing reading skills – Vocabulary.....	78
Table 7: Material economics observed in JPP classes.....	82

ACRONYMS

BETD	Basic Education Teacher Diploma
JPP	Junior Primary Phase
MoEAC	Ministry of Education Arts and Culture
NGO	Non-Governmental Organization
OBN	Observation Notes
ToPA	Theory of Practice Architectures
USA	United States of America
VIL	Visually Impaired Learners.
VI	Visual Impairment
WHO	World Health Organization

CHAPTER ONE

1. OVERVIEW OF THE STUDY

I concur with McLaughlin and Kamei-Hannan (2018) that reading skills are essential for academic-, personal development, and participation in daily activities for all learners including learners with visual impairments” (p.337).

1.1 Introduction

This chapter serves as an introduction to my thesis. I present to the reader an overview of my study that focuses on the development of reading skills for visually impaired learners. I include the key concepts necessary to understand the underpinning purpose of the study. I begin by describing the contextual background of the study followed by the research interest and motivation. Thereafter, I introduce the reader to the purpose of this research, as well as to the questions that guide the study.

1.2 Contextual background

Post-independence, Namibia started with several reforms to unify the educational system. The educational reforms led to the formulation of a policy called “Sector policy on Inclusive Education,” which advocates for and guides the education sector to expand access and support for learners with learning disabilities (Ministry of Education, Arts and Culture, 2013). Although the inclusive education policy aims at addressing the imbalances of the past and ensures both physical and epistemological access to education, teachers of visually impaired learners find it difficult to teach reading skills (MoEAC, 2013). The policy documents further call for the implementation of braille language to be recognized and used in special schools. The ministerial strategic plan for 2017-2022 also indicates the necessity to improve core skills in literacy in basic education and ensure inclusive and equitable quality education for all (Ministry of Education 2017/18-2021/22). The curriculum for braille language (Grade 1-3) aims to capacitate learners with visual impairments to function at grade level expectations using braille as a medium of instruction. The emphasis in the curriculum is placed on the development of learners’ reading skills using braille (Ministry of Education, 2015).

Despite the emphasis in policies placed on reading in braille, the reading diagnostic tests conducted at regional and circuit-level generally exclude visually impaired learners due to the lack of braille resources, such as braille paper and suitably qualified teachers who can teach braille reading, also

who can translate written print into braille print (Ministry of Education Arts and Culture, 2018). Notwithstanding the constraints of conducting these diagnostic tests, the intention is to ascertain visually impaired learners' competence in reading skills. The annual regional results of visually impaired learners indicate that they perform poorly (Oshana Regional Directorate Presentation, 2018). The performance analysis indicates that there is a high retention rate in the Junior Primary Phase. Visually-impaired learners are not promoted due to poor performance in the reading component assessments.

One of the reasons offered for the poor performance of learners in braille reading is that teachers are not appropriately qualified. In Namibia, teachers who teach visually impaired learners are qualified but, generally, do not have specific qualifications in special education. While international studies reveal that some university programs have made progress in providing the necessary background in reading instruction for special education teachers by requiring these teachers to have dual qualifications in both general education and special education (Blankenship, 2008), this is not the case in Namibia. Teaching in special schools in Namibia does not require additional teacher education. Thus, teachers who teach visually impaired learners have not received sufficient training in the domain of developing reading skills using braille as a tool to aid the teaching and learning process.

In summary, since independence, the Namibian Education System has promoted education for all and developed policies to support the education of visually impaired learners. Despite these policies, it seems that the teaching of literacy, specifically reading in braille, to visually impaired learners, is not producing the desired outcomes as learners are not learning to read (MoEAC, 2013). This raises the need to understand how teachers of visually impaired learners are teaching them to read braille. It is through understanding what is happening in the classroom that Namibia can begin to develop strategies to improve the teaching of braille. Considering the above, this study will explore how teachers develop reading skills to support visually impaired learners, as well as ascertain what are the enabling and/or constraining factors that may support or hinder the development of these reading skills.

1.3 Research interest and motivation for this study

My interest in conducting this study stems from my personal, professional and academic experiences; the performance of visually impaired learners in reading; and teachers' strategies in developing reading skills of visually impaired learners. In 2019, I was promoted as a school principal to a school that accommodates visually impaired learners. This promotion has motivated and allowed me to explore how teachers develop the reading skills of the aforementioned learners. Being an educator in the special education division my experience in teaching has taught me that developing reading skills with visually impaired learners is different to those learners in a mainstream school.

1.4 Research goals

The study seeks to find out how Junior Primary teachers develop reading skills with visually impaired learners in one of the special schools in Namibia. The study aims to provide an understanding of what factors promote and/or constrain the development of reading instruction with visually impaired learners. This is done in an attempt to improve teachers' practice and to inform the development of new policies to identify ways of creating opportunities for change. This study enabled the Junior Primary teachers to reflect and elaborate on their practices when supporting visually impaired learners to develop their reading skills.

1.5 Research questions and value of this study

To attain these research goals, the following questions guided me throughout the study:

1. How do Junior Primary Teachers develop visually impaired learners' reading skills?
2. What are the enabling or constraining factors in teaching visually impaired learners reading skills?

The study is of potential value to the Ministry of Basic Education, Arts and culture, teachers, principals responsible for special schools and other researchers who teach visually impaired learners as well as those who have an interest in the development of visually impaired learners' reading skills in Namibia. It will also serve as a source of information to curriculum and language policy developers when formulating and revisiting policies related to reading skills for visually impaired learners. The regional directors can use the findings during training to communicate to

novice and existing staff who experience challenges in their teaching practices. The University of Namibia can also use these findings in training student teachers studying special education in developing reading skills for visually impaired learners. It will contribute to continued scholarly discussions in the field of reading development for visually impaired learners in Namibia.

1.6 Conceptual Framework

Disability is one of the emerging concepts within this study. Various authors define the term disability differently. The term disability is generally defined as the loss or limitation of opportunities to take part in the normal life of the community on an equal level with others due to physical and social barriers (McConnachie, 2013). Disability refers to those factors that restrict or hinder an individual to carry out certain everyday activities in a social context. Meaning that despite those social and educational difficulties experienced, a learner who lost an eye following an accident will not be labelled as disabled but rather impaired (Webster & Roe, 2003). Such a learner will be able to participate fully in most school and family activities apart from that certain condition. Thus, in this study, I will concentrate more on the concept of ‘visual impairment’ instead of ‘visual disability’.

Visual impairment is one of the key concepts underpinning this study. It is argued that visual impairment in an educational context refers to a condition of an eye or visual system which results in less than normal vision (Cox & Dykes, 2001). In this study, normal vision means that learners can use their vision efficiently to interpret visual images. It is further argued that visual impairments could be understood through different conditions that include but is not limited to: reduced vision, obstructed or narrowed field of vision, or failure of visual stimuli to be processed by the brain.

Learners with visual impairment require extra assistance from teachers in developing reading skills using support materials, for instance talking books, audio and enlarged print. Learners with visual impairment are said to have individual differences in the ability to learn reading compared to sighted learners (Webster & Roe, 2003). Visually-impaired learners in this study refer to those learners with low vision or blind (to be explained in chapter 2). Visual impairment is pertinent in the conceptual framework for my study because the study seeks to explore the development of reading instructions for learners with visual challenges. It directs other researchers to look at what practices teachers employed to develop reading skills with visually impaired learners. The concept

of visual impairment will include two categories of visual impairment. The visual acuity and its implications on reading skills and visual functioning are dependent on the learners' experiences using their vision, training to use their vision, and their motivation to function visually (Cox & Dykes, 2001). This will also give the reader an insight into the different types of vision loss referred to in this study in chapter 2.

Global literature reveals that over several years, greater attention has been paid to providing high-quality reading instruction for learners in braille literacy, although low literacy skills among learners who read braille and instructional practices were a concern (Koenig & Holbrook, 2000).

Braille literacy is defined as a system of raised dots that can be read with the fingers through touch by learners who are visually impaired (Kao & Mzimela, 2019). The six dots are arranged in two columns each containing three vertical dots. These are braille cells. These cells are composed of dots that represent the letters in the alphabet. The learners feel with their fingertips to read. Similarly, Khochen-Bagshaw (2011), stated that braille literacy is a tactile system of six raised dots arranged in two columns and three rows forming thirty-six letters and symbols and it comes in two forms, contracted and uncontracted braille. Khochen-Bagshaw (2011) further reasoned that regarding the way braille can be read, English braille is read from left to right, which is similar to sighted print that is read from left to right too. In this way, braille literacy could be understood as the main code of reading for visually impaired learners.

Developing reading skills is also one of the main identified concepts within my study. There is no exact definition of the concept of reading skills. However, Serino (2009), defined reading skills as one of the most challenging and rewarding responsibilities of teachers of learners with visual impairments (VI). Finding strategies that motivate VI learners in developing reading skills is a concern, but a change in reading methods and classroom environment might provide success in reading. Visually-impaired learners who read braille face three main challenges: to decode braille as patterns of texture on the finger pad, extract the linguistic braille meaning of the braille code, and coordinate the movements of reading fingers with perceptual and linguistic processing (Hughes, 2011 p, 370). Since the concepts discussed above speak almost the same language in terms of the 'sayings' 'doings' and 'relatings' (Kemmis, Wilkinson, Edwards-Groves, Hardy, Groetenboer, & Bristol, 2014), I deemed to use the Theory of Practice Architectures, herein referred to as ToPA, as a theoretical and analytical framework which I discuss below.

1.7 Theoretical framing of the study

In this study, I draw on Kemmis et al's. (2014), theory of practice architecture as a theoretical framework. This is because ToPA is centralized around the concept of practice and has a modelling or shaping agenda (Mahon, Kemmis, Francisco & Lloyd, 2017). This theory also has the potential to determine how the practice unfolds the enabling and constraining conditions that may hinder the development of reading skills that Junior Primary teachers experience. For Kemmis and Heikkinen (2012), practices are held together in three dimensions which are: semantic space, physical space-time and the social-political dimension. Central to ToPA, practices are also said to exist in three arrangements which are cultural discursive, material economic and the social-political arrangement which makes practices 'bundled together' (Hemmings et al., 2017 p, 9). In the process of analyzing the factors that promote and constrain teacher practice in developing reading skills with VI learners, ToPA was particularly useful. This theory is presented in detail in Chapter Two.

1.8 Research sites and participants

This research study was carried out in one of the resource schools in Namibia. It is in the northern part of the Oshana region. A resource school in Namibia refers to a school that provides teaching and learning to learners with various disabilities. These include, for example, intellectual impairment, visual impairment and hearing impairment. The three research participant teachers were teaching at the same school. They were all female teachers. The same three teachers were observed five times during reading lessons and interviewed individually and as a group. All three participant teachers were Junior Primary teachers as described below.

(a) Teacher 1

She is very hard-working, well prepared and very committed. In her early fifties, she is a class teacher for Grade 1. She had performed exceptionally well each year. She has been a teacher for 23 years and she enjoys teaching young learners. She holds a Basic Education Teacher Diploma (BETD) specialising in Junior Primary Education. Additionally, teaching is her calling and passion as she strives to uplift learners with visual impairments.

(b) Teacher 2

She is one of the visually impaired teachers in the Junior Primary Phase and she has experience with what it means to be visually impaired. The teacher is a female of 34 years who has been teaching for 11 years. Her highest qualification is a Bachelor of Education, Honours in Primary Education (BED). She is a Grade 2 teacher. She is caring and determined to teach visual impairment learners.

(c) Teacher 3

She is committed and passionate about teaching. She is a Grade 3 class teacher for VI learners. She holds a Basic Education Teacher Diploma (BETD) specialising in Junior Primary Education. She has 18 years of experience in teaching VI learners.

The school is a state school situated in an urban area. Data were collected using the observation method, stimulated video-recall interview and focus group interview. The purpose of using multiple methods for data collection is that the limitation and shortfall of one method may be complemented by one or more of the others. Briggs, Coleman and Morrison (2012), argue that the “use of multi-methods links to the notion of triangulation that strengthens the validity and worthiness of the findings” (p.87). Chapter Four provides a full account of my methodological processes.

1.9 Clarification of concepts

The following terms are frequently used in this study. They are defined next and will be discussed later in the text.

Visual impairment refers to a condition of an eye or visual system that result in less than normal vision (Cox & Dykes, 2001).

Visual acuity is a term used to refer to how well a learner sees from specified distances.

Blindness is a condition of having severely impaired or absolutely no sense of sight (Arum, Lintang Sari & Perdhani, 2021).

Braille is the embossed six dots system of reading used by visually impaired learners, named after its inventor Louis Braille (Koenig & Holbrook, 2000).

Low vision: the partial loss of vision

Tactile refers to a sense of touch.

1.10 Thesis outline

My thesis has six chapters. In this chapter, the introduction chapter, I presented to the reader an overview of the chapters in this study.

In Chapter Two, I present the literature review around the following key concepts: visual impairment, braille literacy and reading skills as the main focus. I discuss the evolution of braille reading and the methods teachers used to develop reading instructions with visually impaired learners. Challenges related to the development of reading skills with visually impaired learners will be discussed.

Chapter Three explores the theoretical background of the study, which uses the Theory of Practice Architectures (ToPA) to analyse the data generated. The chapter begins with an introduction to the theory and further discusses the concepts of praxis and practice.

Chapter Four discusses the research orientation and methodological approach that guided the research process. This chapter also describes the research site, research participants, and how they were selected. I further explain how I used different data generation techniques, such as observation and interviews to explore a case study on how Junior Primary teachers develop reading skills with visually impaired learners. Thereafter, I discuss how I analyse the data while ensuring the validity and trustworthiness of my study. The chapter concludes with a discussion on how I gained access to the research site as well as how I maintained and upheld research ethics.

Chapter Five has two sections; in section one I present a detailed account of data that answered my two main research questions. I analyse the data generated using various techniques, sorting it into patterns and categories. The chapter further discusses the research findings. The themes that emerge are discussed drawing from literature as explained in Chapter Two. In section two I present and discuss data using the Theory of Practice architectures as a lens.

In the final chapter of my thesis, **Chapter Six**, I summarised the key findings concerning the research questions and purpose. The chapter affords a reflection and critical overview of what prompted the study and why the study is considered valuable. In addition, the chapter provides the

recommendation for practice as well as the possibilities of further research on the notion under study. This study also includes the organisation of the chapters that follow.

The next chapter (chapter two) provides a review of the literature for this study.

CHAPTER TWO

2. Literature Review

2.1 Introduction

The purpose of this chapter is to provide a review of the literature pertinent to the phenomenon under study and to discuss how Junior Primary teachers develop visually impaired learners' reading. I acknowledge that there is a dearth of published literature relating to visual impairments within the Namibian context. Thus, I relied on sources mainly outside Namibia for my study. The first section of this chapter commences with a discussion of the term visual impairment (VI) to understand the meaning from an educational perspective and link it to the focus of this study. In the second section, the chapter examines the importance of developing braille literacy with visual impairment to gain insight and an understanding of the two forms of reading braille, contracted and uncontracted braille. Finally, this chapter discusses the obstacles both teachers and learners experience in developing reading skills, with VI learners drawing from the past and earlier research findings and exploration on the same notion.

2.2. Unpacking the key concepts in this study

2.2.1. Disability

The World Health Organisation (2009) states that “the outcomes or result of a complex relationship between an individual's health condition and personal factors, and of external factors that represent the circumstances in which the individual lies” (p.5). Elaborating on the definition of disability, Knowlds (2010), clarifies disability as any restriction or lack (resulting from any impairment) of ability to perform an activity in a manner or within the range considered normal for a human being. This means that in this study the disability focus is on learners with visual disabilities. The final report of the National policy on inclusion in Namibia is to support learners with a wide range of individual abilities and needs in compulsory education.

2.2.2. Visual impairments

One of the pertinent concepts in this study is visual impairment. It is an overarching term that includes learners with low vision and blindness as described by various authors. For example,

Douglas, McLinden, McCall, Pavey et al. (2011) defines visual impairment as a broad term that describes a wide continuum of loss in visual function. Similarly, Kao & Mzimela (2019), state that visual impairment is an umbrella term which ranges from low vision to total blindness. Regardless of how one describes visual impairment, it is a condition that affects learners' educational performance. Such impairments can include reduced visual acuity, obstructed or narrowed field of vision, or failure of visual stimuli to be sent to or processed by the brain (Cox and Dykes, 2001). In this study, visual acuity is a term used to refer to how well a learner sees from a specified distance. This translates to say that VI can be defined as a condition of the eye or visual system that results in less than normal vision.

The term visual impairment emphasizes functional visual efficiency because visual efficiency is unique to each learner experiencing this impairment. Mboshi (2018) argues that the way learners use their residual vision is the main concern for every educator. Teachers who teach learners with visual impairments need to be informed about the learners' visual abilities and the effect on their reading skills in advance to make informed decisions in developing those reading skills.

Learners with visual impairment are categorised based on how clear their vision is. Categories are characterised by the ability to use vision when reading, as well as how much they use other senses for reading. The terms low vision and blind are often used to describe and categorise levels of vision. These two categories are the main focus of this research. Each category is considered in terms of acuity and its implication for the learners' ability to learn to read. In the next section, I will unpack these two categories in more detail.

2.2.3. Blindness

Literature reveals that in the medical and legal domain, blindness is described as acuity of less than 3/60 which is the vision for learners wearing spectacles or lenses. In educational contexts, the term 'blindness' is typically used to describe those learners who have no sight at all, or have light perception only (Webster & Roe, 2003). These authors further explain that blind learners will be highly dependent on tactile and auditory means of learning that require some specialised equipment, for example, braille machines, audio recordings, talking story books etc. Total blindness is either having no vision or no ability to tell light from dark and no light projection,

meaning that learners cannot identify the direction from which light comes (Kao & Mzimela, 2019). With the description of blindness given above, my focus now turns to low vision.

2.2.4. Low vision

Low vision is a condition in which clarity of sight is permanently reduced to such a level that a learner is incapable of performing the smallest everyday living visual tasks (Kao & Mzimela, 2019). Generally, learners with low vision can learn using their visual sense although they may need to have an enlarged print or magnifying glasses to sharpen the print. It is therefore believed that a visual sense might be understood as the ability to use their remaining sight that enables these learners to read. Hence, learners who fall into this category generally work slowly and experience difficulty in reading (Cox & Dykes, 2001). However, they may need to use a magnifying glass to support their visual ability or have the font size of the print considerably increased.

To sum up, the development of reading skills for visually impaired learners is entirely dependent on the use of available teaching resources to acquire reading through tactile methods. Researchers demonstrated that low vision learners can read print with optical devices (magnifiers) or large print properly (Corn et al, 2002; Cox & Dykes, 2001). Therefore, teachers teaching visually impaired learners must use strategies based on tactile, auditory, and kinesthetic senses to support these learners to achieve the same academic standards in the development of reading skills and gain similar independence as their sighted peers in mainstream schools (Hodapp, 2014).

2.3. How braille reading came about

Louis Braille, a French educator, invented braille reading in the early 1800s. He was blinded in an accident at the age of three. He developed a six-dot braille code that represents letters of the alphabet, whole words, punctuation marks and even numbers (Kao & Mzimela, 2019). It is further emphasized that braille codes created an effective way of reading and writing to enable visually impaired learners to communicate. It is still the system used for reading with visually impaired learners worldwide in schools today. Without braille, it is unlikely that learners with profound visual impairments would experience the level of education and independence that they do today (Tallon & Herzberg, 2013). Braille is the key to information that enables visually impaired learners to have an appropriate opportunity to communicate whilst learning reading skills.

Most writers have conceptualised the term braille differently. Although these differences are minor, Toussaint and Tiger (2010) describe braille as a system that enables individuals to read and write through touch. The American Foundation of the Blind (2015), states that “braille is a system of raised dots that can be read with fingers through touch by people who are blind or who have low vision and with eyes by people who are sighted” (p.2). Koe & Mzimela (2019) indicate that braille is a system of embossed signs which are formed by using combinations of six dots that are numbered and arranged in a specific manner. The figure below shows an example of the braille combinations.

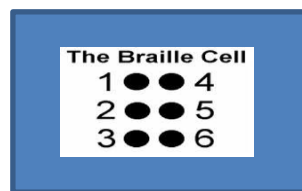


Figure 1: Braille cell with numbered cell (adapted from Kao & Mzimela, 2019)

In this study, I refer to braille as a system of embossed signs that visually impaired learners use to read and write. It should be noted that braille is more complicated than typical print reading because it comprises the alphabet letters, punctuations, and numbers but also contractions, short-form words and the associated rules governing their use (Greaney & Reason, 2000). In addition, braille is not a language; rather it is a code in which many other languages like English, Chinese, Spanish and African languages can be written. Studies done in the field of visual impairment investigated many aspects of braille reading. The exploration was done by focusing on the reading rate of braille readers, and the recognisability of braille characters, letters and words (Wetzel and Knowlton, 2000). Other studies examined the implication of modifying braille code, reading and teaching strategies and the effects of visual resources. Wetzel and Knowlton (2000) further stated that “until recently, braille researchers have failed to look at braille reading as reading” (p.65). Thus, in this study, the ultimate goal is to explore how teachers develop reading skills with visually impaired learners.

2.3.1. The importance of understanding braille literacy

Braille is written in tactile cells of six raised dots arranged in two columns and three rows forming thirty-six letters and symbols (Khochen-Bagshaw, 2011) It comes in two main forms, contracted and uncontracted braille which will be discussed next.

2.3.2. Uncontracted braille

Uncontracted braille is an alphabetic letter similar to print when reading or writing while contracted braille is written in an abbreviated format such as *bl* for *blind* and *brl* for *braille*. Uncontracted braille is one of the tactile alphabetic symbols that is introduced to learners early in Grade 1. For example, the word cat is represented as dots configured as follows: dot 1 and 2 represent *c*, dot 1 represents *a* and 2, 3, 4 and 5 represent *t*. The figure below represents the word cat as per braille cells.

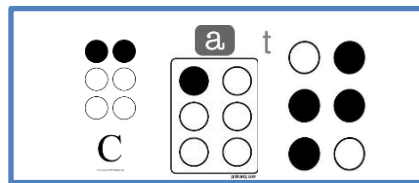


Figure: 2 Uncontracted braille (adapted from Hong & Erin, 2004)

Visually-impaired learners are introduced to alphabetic braille first in grade 1 to master the dot configuration of letters to enhance their reading skills. Hong and Erin (2004), indicate that visually impaired learners may either use uncontracted and/or contracted braille to read. Literature reveals that the majority of learners with visual impairments do not receive appropriate reading instruction from a teacher because braille literacy requires well-designed reading instructions associated with the development of proficient literacy skills in visually impaired learners (Tallon & Herzberg, 2013). The method for teaching learners to write in braille internationally e.g. the USA has traditionally introduced learners to contracted braille from the onset of instruction. Similarly, in Namibia, learners with visual impairments are introduced to braille reading instructions in the early Grades (1 - 3) to develop their reading skills.

Uncontracted braille helps learners to improve spelling and the use of vocabulary in acquiring skills. In addition, uncontracted braille is also noted as a form of braille code that always follows the natural segmentation of syllabuses (Laroche, Labbe, Benoit, & St-Pierre-Lussier, 2017). A challenge of uncontracted braille is that it reduces reading speed. It also takes up more space as

more materials for reading are developed. By this I mean, a book written in uncontracted braille has considerably more pages than one written in contracted braille.

There are possible advantages to using uncontracted braille in developing reading. Literature indicates that uncontracted braille provides visually impaired learners with good spelling skills. This implies that developing reading using uncontracted braille will improve reading skills for VI learners. Apart from the positive impact of using uncontracted braille reading, Tobin and Hill (2012), articulate that “specialist teachers and educational psychologists do notice lags, delays and deficiency in the reading development of most children registered as visually impaired” (p.81). Similarly, delays in reading were also observed among the Malaysian-speaking visually impaired readers, while in Britain similar delays were noted in all aspects of reading components including accuracy, speed and comprehension among visually impaired learners (Tobin & Hill 2015). This indicates that although visually impaired learners are introduced early to contracted and uncontracted braille reading, it might take time for learners to master the process of knowing the braille symbols, meanings and dot configuration. As such, uncontracted braille is usually introduced first.

The intention is also to support the increment of reading fluency. The reduction of codes will not affect the learners’ reading speeds, compared to contracted braille which lowered the reading rates. In addition, learners with visual impairments can read faster when the text contains only contracted braille than when it contains uncontracted braille. Teachers of young visually impaired learners introduce braille contractions early in the process of teaching reading, even though there is little evidence to support the effectiveness of this practice (Hong and Erin, 2004).

Despite issues raised by researchers within the field of special education, learners with visual impairments who learned contractions later in their school years had superior reading skills compared to those who learned contractions early (Hong and Erin, 2004). A few studies which compared the early and later introduction of contractions assured that the early introduction of contracted braille has been better based on professional observation (Hong and Erin, 2004).

2.3.3. Contracted braille

Contracted braille refers to an abbreviated written code used by learners with visual impairment in reading and writing. This form of braille code is taught from Junior Primary Phase, Grade 0 - 3, concurrently with the rest of the school curriculum. In addition, contracted braille is a short form of code with a combination of letter symbols that represents a whole word or group of words. For example, *b* dot 1 and 2 reads *but*, *f* dot 1, 2 and 4 reads *from*, *c* dot 1, 2 reads *can*, *d* dot 1, 3, 4 reads *do* and *e* dot 1, 4 reads *every* as shown in the picture below:

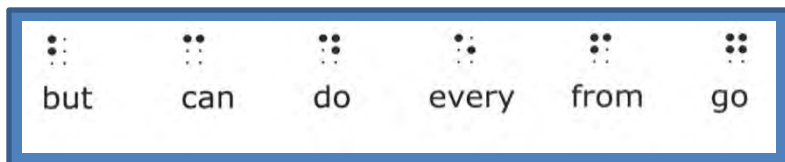


Figure:3 Contracted braille code (adapted from Howse, Riessen, & Holloway, 2013)

Letters of the alphabet are used in braille to represent whole words where they are standing alone and not part of a longer word (Howse, Riessen, & Holloway, 2013). Single letters are used in this way to represent words.

One of the key advantages usually attributed to contracted braille is space-saving within the pages. Another benefit used to promote the teaching of contracted braille is reading speed. Space-saving does not equate to saving time developing reading skills. Contracted braille is complex as it consists of many contractions. As a result, it is quite difficult to promote the skill of reading using contracted braille. For example, there are three types of contractions: there are whole word contractions: have = *h*, from - *f*, that - *t* usually is the first letter of the word that is used, and short-form contractions, such as *bl* - blind, *brl* - braille, *rjc*- rejoice are used to shorten the longer words a part–word contraction, for instance, *be* - believe, *con* - conduct and *com* – welcome. These may be used only when they constitute an entire syllable and occur at the beginning of a word. These are some of the contractions within braille literacy teachers need to develop with learners to be able to read sentences.

Another consideration made in the development of contracted braille is that it is likely to increase the learners' cognitive load, therefore, the teacher should also consider this when teaching this form of braille reading. Laroche et al. (2017) argue that learners with visual impairment learned contracted braille shortly after having acquired the ability to read. Contracted braille allows

learners to learn new braille code resulting in saving reading time and space, making reading contracted braille more efficient and convenient (Khochen-Bagshaw, 2011).

Some signs represent words, such as *c* - *can*, *d* - *do*, *e* - *ever* and *k* for *knowledge* and these are the braille letter signs used from Grade 2 - 3. Similarly, Kao and Mzimela (2019), elaborate on these two forms of reading that Grade 1 use (alphabetic or uncontracted braille) and Grade 2-3, use both contracted and uncontracted braille. Figure 4 illustrates contracted braille and various contractions used in teaching reading of braille in Junior Primary Grades.

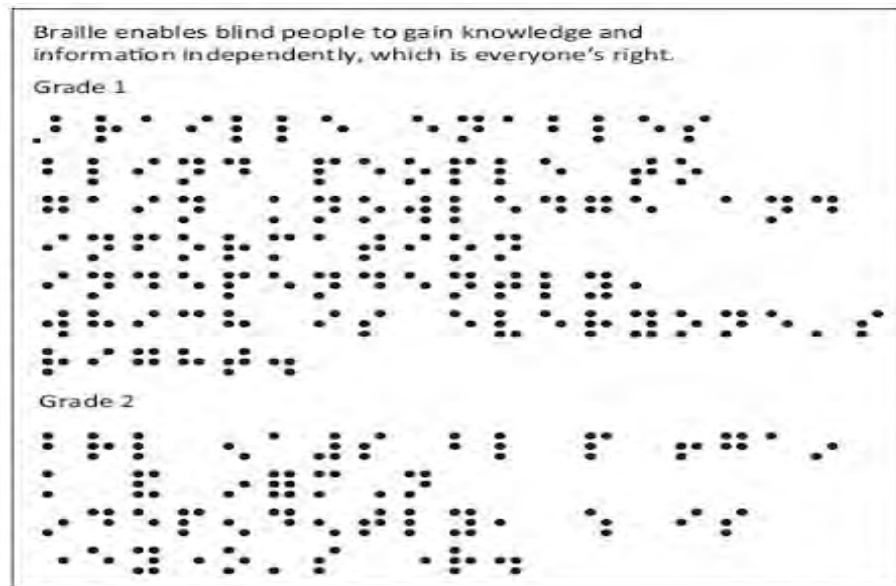


Figure 4: Uncontracted braille Grade 1 and Grade 2 contracted braille code. (adapted from Kao & Mzimela, 2019)

Contracted braille is used to save space and speed up the reading process. In contrast to that, uncontracted braille results in braille reading books containing more pages per book. In most cases, teachers of visually impaired learners introduce braille contractions early in the process of teaching reading, even though there is little evidence to support the effectiveness of this practice (Hong and Erin, 2004). These authors further indicated that although contractions were not consistently used for early readers' years ago, positive outcomes of saving space when using contracted braille were observed especially in reading speed that cause a shift toward contracted braille (Hong & Erin, 2004).

In conclusion, reading speed for learners with visual impairments is not similar to those learners who do not experience visual impairments in Junior Grades at mainstream schools. Visually-impaired learners use contracted and uncontracted braille that consists of a configuration of dots. Braille literacy, especially contracted braille, has many forms representing whole words, two or more groups of letters within words, and two cell signs, thus saving space and time to scan the whole-cell tactually. This might take a longer time to develop (Tobin & Hill, 2012). The time factor affects these learners' academic reading development and performance. It results in slow reading speeds that can have an impact on learners' abilities to achieve academically (Corn, Wall, Jose, et al, 2002). Thus, learners with VI are often observed using more time to read or to complete their tasks.

2.4. The development of reading skills with visually impaired learners

The development of reading skills in learners who are visually impaired is a worldwide issue which is expressed in all sectors of society (Tobin & Hill, 2012). The development of reading ability has been the focus of research and professional discussions for many years. Many researchers consider reading ability to be the primary goal of education (Emerson, Sitar, Erin, Wormsley et al., 2009). It is argued that reading skills are essential for academic achievement, personal development, and participation in daily activities for all learners, including learners with visual impairment (McLaughlin & Kamei-Hannan, 2018). Learners with visual impairment must be taught all reading skills from Junior Primary Phase despite the challenges associated with poor vision and the barriers to learning this impairment brings about.

To achieve better outcomes in reading, the literature indicates that teachers for visually impaired learners must have appropriate pedagogical strategies and teaching skills to adjust to a variety of learning styles and abilities in learning content and knowledge at a high degree of reading competence (Blankenship, 2008). In the area of reading instruction, content knowledge is defined as an understanding of the five core components of reading skills, namely phonemic awareness, phonics, reading comprehension, vocabulary and fluency. However, reading instruction for visually impaired learners also focuses on literacy braille code (as presented in figure 1), as well as the components of the reading process, (Tallon & Hersberg, 2013). These reading components are the underpinning elements in this study to explore the development of reading skills of learners experiencing visual impairment. These reading skill components are further explained below.

2.4.1. Phonemic awareness

There are various definitions of phonemic awareness. Shanahan (2005) defines phonemic awareness as the ability to hear and manipulate sounds within words or it is described as the ability to break down spoken words into segments (Arum, et al., 2021). The sounds of the words are called phonemes, so awareness of this sound is phonemic awareness. For instance: the word *sat* has three sounds or phonemes: s/a/t. Some words have fewer sounds compared to the letters that appear in them, for example, the word *hope* has three sounds with four letters h/o/p/e this is phonemic awareness of sound, not letters. In contrast to that, dividing words into sounds with low vision learners might be easy because they can visualize the letters compared to blind learners who rely on the sound (Arun et. al, 2021). Blind learners might hear the sound in a given word for example *bike* b/i/k/e without realizing that there is a silent letter 'e' not expressly mentioned in the word.

Phonemic awareness is also the ability to recognise that a spoken word is made up of sounds. It is part of effective reading instruction. Having strong phonemic awareness is considered a predictor of reading success (MoEAC, 2015). Phonemic awareness is not the same as phonics. Phonics (discussed in more depth in the next paragraph) refers to the instruction on how letters and sounds correspond to each other and how these sound-letter correspondences can be used to decode or pronounce words in a text (Shanahan, 2005). Decoding means the analysis of the letters in a word/pronunciation. Another difference is that phonemic awareness is not about how sounds and letters match or how to sound out letters, it is only about hearing or manipulating the individual sounds within the words. This exercise can only be possible for learners if they can recognise letters in words and sound them out.

More importantly, the development of phonemic awareness plays a vital role in the phonological structure of a language. Visually-impaired learners, need to master reading regardless of the linguistic nature of the language learned (Arum, et al., 2021). A phonemic awareness skill was found to give the greatest reading advantage to kindergarten and first Grade learners through segmentation and blending (Shanahan, 2005). Significantly, research shows that learners find segmentation and blending to pronouncing the sound together to form a word as the most difficult in building phonemic awareness skills (Shanahan, 2005). Teachers need to be sure that learners are learning to hear the sound in words well enough to support full segmentation as well as learning the blending skills to put the words back together again.

With regards to phonemic awareness, Shanahan, (2005) argued that language is taught through songs and games and other related activities that encourage learners to listen for the sounds within words. This author went on to say without phonemic awareness instructions; phonics is more difficult to learn. This translates to saying, phonemic awareness instruction should be taught before phonics so that learners will fully benefit from their phonic instructions. In brief, phonemic awareness may be considered an essential early reading skill that will help Junior Primary teachers to develop reading skills with visually impaired learners.

It is therefore vital during teaching reading skills in Junior Primary grades to expose learners with visual impairment to a variety of spoken words such as rhyming words e.g. sun, fun, bun, etc.

2.4.2 Phonics

Generally, phonics is the understanding that there is a relationship between the individual sounds (the phonemes) of spoken language and the written letters (graphemes) that represent those sounds in written language (Konza, 2011). Phonics understanding is meant to represent the letter sounds of the 26 letters found in the English language. A learner cannot relate a letter sound, if the letter sound cannot be perceived, for that reason, phonics refers to the linking of written letters with their sounds. The link between letters and sounds promotes fluency, specifically the level of accuracy and automaticity in reading. Thus, learners who struggle with fluency tend to have poor comprehension of phonics at an early stage (Emerson, et al., 2009).

Phonological explanation with visually impaired learners is important in regards to their sensitivity and their memory of sounds. Since phonics skills development requires one to have the ability to see the visual symbols representing letters, i.e. graphemes, developing phonics skills with visually impaired learners become more complex because their visual ability is compromised. The focus on developing tactile sensitivity, perception and memory is of vital importance for learning to read in braille (Greaney & Reason, 2000).

According to Konza (2011), the teaching of letter-sound relationships should be part of beginning education programmes. They further argued that at least three different approaches to teaching phonics exist with variations in each of them. As such, many teachers use the combination method to develop reading skills. Thus, the following phonics instruction might be effective to examine the different approaches: synthetic phonics instruction which refers to the process of synthesizing

or blending individual letter sounds together, for example, the sound of the following letters *s*, *a*, and *t*. Another programme is literature-based phonics instruction. This means the approach to teaching phonics involves pointing out letter-sound relationships to learners incidentally while engaging in reading a motivating text. The third programme mentioned is analytic phonics instruction. It is based on teaching whole words and involves drawing learners' attention to and analysing the particular parts of a word. The emphasis is on the beginning and ending sound, known as the onset and rime in a word, for example: sat, mat, rat, ant and jar. The onset would be the s, m, r, a, and j sounds. The rime would be the t-sound.

Greaney and Reason (2000), found out that phonic programmes that use picture clues to remind learners of particular letter sounds cannot easily be adapted for braille. However, using purely auditory reading activities might be appropriate and provide a good basis for phonological development.

2.4.3. Reading comprehension

Reading comprehension is one of the most complex cognitive activities in which learners and teachers engage to promote reading skills. This makes reading comprehension difficult to teach, learn and measure. Elleman and Oslund (2019), define reading comprehension as “a process of extracting and constructing meaning through interaction and involvement with written language” (p.233). Reading comprehension is one of the application skills that evolve from other purposes such as listening or oral comprehension (Kirby, 2014). This means that reading comprehension is more challenging to develop and requires practice. It should not be surprising that reading comprehension is difficult and requires mental capacity. This means that there should be an automatic cognitive interaction that enables the reader to create a mental representation of the text. Comprehension depends largely on the reader's language processes, such as basic reading skills, decoding, vocabulary, sensitivity to text structure and motivation (Elleman & Oslund, 2019).

In addition, reading comprehension is the ability to process text, and understand its meaning through word decoding and linguistic comprehension (Catts, 2018). Early development of decoding is associated more with reading comprehension than linguistic competence. Once decoding is mastered, linguistic comprehension becomes a better predictor of reading comprehension.

There are guidelines and strategies for developing reading skills with visually impaired learners, for instance, oral comprehension whereby learners listen actively to a given text/story they ask questions and they are asked questions about what they have heard. Prediction or prior knowledge, think-aloud text structure, visual representations, summarisation and questioning individuals were suggested to also be beneficial in developing reading comprehension (Duke and Pearson, 2002). Although these authors include visual representations to develop reading comprehension, teachers do need to bear in mind that this poses immense challenges for visually impaired learners. Elleman and Oslund (2019), argued that comprehension strategies are one of the most highly recommended instructional methods for improving comprehension. Equally important, a variety of reading materials should be used, including short text. Teachers should avoid asking learners to read long texts, especially those who are struggling with reading. Reading materials teachers might use to develop reading comprehension during class activity could include short pieces of a story, poems, sports stories, current events, and stories that are within the learners' context (Konza, 2011). Teaching materials such as cartoons and jokes can also be used to build reading comprehension.

2.4.4. Vocabulary

Vocabulary plays a major role in reading comprehension in learners' home language and the additional language that learners are expected to learn at school since without vocabulary reading text and understanding its meaning are not possible (Acosta, 2019). Shanahan (2005), defines vocabulary instructions as teaching word meanings because much of the reading instruction is focused on words, e.g. word recognition, sight words, word structure and word family. Additionally, vocabulary refers to the words that learners can read and understand from a story or a text or other reading materials. For visually impaired learners this includes how many vocabulary words they need to acquire at the end of developing reading skills in the Junior Primary Phase (Grade 1 - 3). Vocabulary acquisition is built through reading comprehension as well as through the previously discussed reading components. In general, learners acquire vocabulary at an astounding rate, on average of 2 to 8 words per day argued Elleman and Oslund (2019). Once learners begin to read independently, vocabulary acquisition becomes dependent on exposure to braille/print, not oral language or instructions only.

Several pieces of research have been conducted to investigate the teaching of vocabulary in English to visually impaired learners. These studies found that although the breadth of the vocabulary of

visually impaired learners is mostly comparable to that of sighted learners, some learners show problems concerning the proper meanings of words (Vervloed, Loijens & Waller, 2014). These problems reveal that when learners are asked to explain a word provided by the teacher, they struggle to do so.

According to Shanahan (2005), many instructional procedures can be used to teach vocabulary successfully. For instance, definition procedures, semantic mapping, keywords methods, categorisation and mixed-method procedures. All these methods and procedures are said to provide some learning advantage of vocabulary. Teaching learners the meaning of words, and techniques to determine word meanings from context and the meaning of word roots requires explicit instructions. These types of instructions have been found to provide learners with clear and consistent gains in the development of reading.

Vocabulary development, aided by extensive reading offers learners exposure to new and existing vocabulary (Acosta, 2019). The author emphasised that the vocabulary development process is gradual and may only become evident after a certain level of language proficiency is achieved. Therefore, Shanahan (2005), argues that reading text to learners can influence their vocabulary learning, and teachers should show care in the selection of these reading materials to ensure that they introduce useful words with sufficient context and illustration. Thus, the text used for supporting vocabulary growth in reading and listening must include plenty of repetition or extended use of new words throughout the text.

2.4.5. Fluency

Fluency is defined as the ability to read with speed, accuracy, and proper expression for the learners to understand what they have read (McLaughlin & Kammei-Hannan, 2018). Learners who struggle with fluency often have poor comprehension. Thus, the key to fluent reading is the capability of recognising letters, spelling patterns and whole words effortlessly (Murray, 2006). Learners should be able to read fluently whether they are reading aloud or silently.

Fluency is considered a critical component of skilled reading and is believed to be an essential skill for successful reading development (Stanfa & Johnson, 2015). Significantly, researchers found that those readers who are fluent tend to enjoy reading more, have more positive attitudes

toward reading and have a more positive concept of themselves as readers than learners who read less fluently (Stanfa & Johnson, 2015; Murray, 2006; Duke & Pearson, 2002).

It has been argued that fluency may be related to comprehension for braille readers in similar ways as sighted readers (Stanfa & Johnson, 2015). This means that oral reading fluency has been conceptualised in similar ways for braille readers. Several reading materials can influence how VI learners read a given text fluently. Their fluency depends on the proportion of words read correctly, the speed at which words are decoded, as well as the learners' comprehension and vocabulary knowledge.

Many children with visual impairments demonstrate poor fluency with correspondingly low levels of comprehension skills. Without appropriate fluency teaching approaches to struggling braille readers, they may develop chronic problems with reading fluency which, in turn, may discourage these visually impaired learners from reading (Stanfa & Johnson, 2015). There are many different approaches used to teach fluency successfully such as repeated reading, paired reading, echo reading, listening while reading, guided reading and a radio reading with a tape recorder (Shanahan, 2005). Oral reading fluency is developed in consideration of the following essential features: practice reading aloud text given, repetitions of words/text in pairs or with the teacher and one-one reading as learners are provided feedback. In the same way, Stanfa and Johnson (2015), mentioned that one of the most widely supported methods of increasing print reading and braille is the repeated reading process. The repeated reading method is found to be more effective in developing fluency with visually impaired learners. Therefore, these are the reading components that I focused on in this study. Based on this, reading instructions for visually impaired learners should include both the development of reading braille code and the components of reading skills. Teachers should use various strategies to strengthen these reading components.

2.5. Teaching methods in developing reading skills with visually impaired learners

A literature review on teaching English as a second language to visually impaired learners reveals that material is scarce in the field of vision education and applied linguistics (Arum, et al., 2021). Blindness affects the development of learners with VI. As a result, these learners might experience poor language development due to a lack of vision. The teaching of VI learners requires a variety

of teaching methods that will cater for their learning needs, for instance, taking into account their learning preferences and learning styles.

In teaching visually impaired learners, teachers need to be aware of some of the strategies for supporting learners with visual impairments in the classroom. Setiawan, Adnyani and Suprianti (2020), highlighted some of the useful strategies in teaching visually impaired learners reading skills. These strategies are the use of large writing on the chalkboard or visual aids. Teachers should let the learners come or sit close to the board or make use of appropriate teaching aids so that the learners can see more easily, especially those learners with low vision. The second strategy is to read aloud what is written on the paper or chalkboard. The third strategy is to supply learners with papers with thicker lines drawn on them in case they have difficulties seeing the lines on pre-printed papers. The last strategy is the use of verbal praise or touch to give the children encouragement. These strategies were found to be more essential in developing reading skills in visually impaired learners.

Furthermore, one of the strategies that support teachers of visually impaired learners to develop reading skills is the phonics approach. In this approach, teachers introduce braille letter sounds through listening and speaking. For example, teachers may use a muffin pan or an egg box which resembles braille dots to introduce a certain letter sound, for example, the letter 'a'. Learners will demonstrate reading the given word based on the objects placed in the egg box holes that represent the braille cells. See pictures below – Figures 5 and 6:



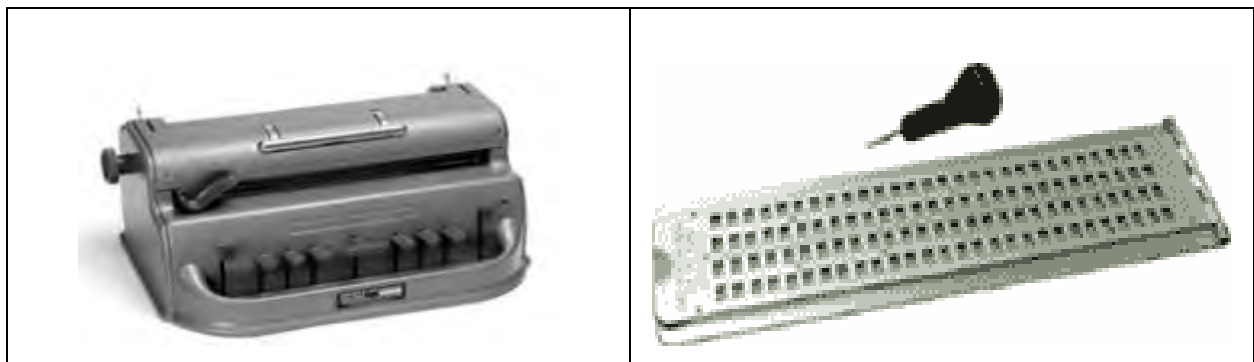
Figure 5: Shows the representation of braille cells in six dots (photo taken by the teacher, 2021)

•	• •	••	•• •	• •	•• •	•• ••	•• •	• •	•• •	• • •	•• • •	•• •
a	b	c	d	e	f	g	h	i	j	k	l	m
•• •	•• •	•• ••	•• ••	•• •	•• •	•• ••	•• •	•• ••	•• ••	•• ••	•• ••	•• ••
n	o	p	q	r	s	t	u	v	w	x	y	z

Figure 6: Shows alphabetical letters in Braille and print (adapted from Howse, Reissen & Halloway, 2013, p.18).

The concrete items placed in specific positions enable learners to visualise the braille dots through touch. A learner places a stone, marble or similar item into the first column leaving the remaining holders empty (Kao & Mzimela, 2019). This is a tactile means of developing reading skills. This strategy enables a visually impaired learner to manipulate objects, thus, gaining a sense of the braille system. Verbal input from the teachers strengthens the visual/tactile input. A visual supporting device such as a magnifying glass is used to assist learners with low vision so that they become familiar with the braille system in the event they lose their sight completely.

At the beginning of introducing braille letters, teachers encourage the learners to learn the letters by memorising how the dot letters are written. This method assists learners to recall the dot configuration of letters which enables the learners to be introduced to different phonics. At a later stage, the learners can blend two or three letters for example; *bl - blue-black, cl - class clap or scr - scream, spr - sprout* etc., thus, steadily developing vocabulary acquisition. The tactile method is introduced when learners are provided with reading learning materials. For example, a Perkin braille machine is used as a tool for learners with visual impairment. It is used in writing, talking storybooks, slate etc.



Braille Machine	Slate
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Figure 7: Some of the tools for translating braille into print (adapted from Jenkins, 2012)

Greaney and Reason (2000), argue that although tactile characters were found relatively difficult to decode, coding is crucial as a strategy during learning. For this reason, visually impaired learners are introduced to alphabetic braille letters at the beginning of the Junior Primary Phase to avoid delays in reading skills. This strategy is employed with blind learners while low vision learners are introduced to print letters or both in the event they lose their sight completely.

Another method teachers use is to sing songs to visually impaired learners. Toussaint and Tiger (2010), observed that singing songs to visually impaired learners as they touch the braille symbols produced good results in establishing early braille letter naming and teaching the relationship between braille symbols and symbol letters. In this approach, learners are expected to place their fingers over the braille letter, feel it and experience the alphabet whilst repeating the song. Teachers focus on developing learners reading skills through tactile sensitivity, perception and memory. Toussaint and Tiger (2010), consider these skills as prerequisites for learning to read in braille.

Teacher training and appropriate teaching skills are the essential ingredients for developing braille reading with visually impaired learners. Teachers, of learners with visual impairments, who themselves have low experience with braille and low vision devices, may not be well versed in providing instruction in phonemic awareness, phonics, fluency building, and comprehension and vocabulary development (Tallon and Herzberg, 2013).

Although reading ability has been studied from different perspectives, Fellenius (1999), noted that visual impaired learners' literacy skills, speed of decoding and processing of text are mostly at a slower speed. As such, teachers of young visually impaired learners introduce braille contractions earlier in the Junior Primary Phase.

2.6. Challenges of developing reading skills in Braille

There are constraining factors in developing reading skills for visually impaired learners. Despite the saying that literacy development begins at birth, some researchers have questioned the appropriateness of reading skills for visually impaired learners. It is interesting to find that many

visually impaired learners have some other difficulties in addition to their vision impairment, which results in the participation of learning and developing more formal literacy instruction in reading skills (Parker & Pogrud, 2009). The issue of providing access to print to individual learners with visual impairment and how teachers ensure that these learners receive high-quality instruction in reading as required in the curriculum seems to be an obstacle in developing their reading skills.

The belief of teachers that learners must demonstrate “reading readiness” provides barriers to learners with additional disabilities receiving access to traditional reading instruction (Parker & Pogrud, 2009 p, 637). Different teaching approaches are used by teachers to promote the tactile literacy system to braille for expressive communication through voicing out words or text provided, labelling, making lists and reading for enjoyment.

To begin with, one of the challenging aspects of developing successful braille reading is to balance the academic reading performance with the mastery of a braille reading set of skills such as the recognition of braille characters, letters and words through the tactile method and fine motor skills (Sacks, Kamei-Hannan, Erin, Barclay et al, 2009). Consequently, teachers tend to rate learners who experience visual impairment as poor readers because reading speed for these learners is a challenge and generally slow. Thus, learners with visual impairments are often observed using more time to read or to complete their tasks (Tobin and Hill, 2012).

In addition, on the issue of the school curriculum, Koenig and Holbrook (2000, p 678), stated that “The professionally prepared teacher of visually impaired learners must be responsible for the assessment, instruction, and evaluation in the unique and specialised curricular”. This means that the essential reading competencies require educational time to be allocated to cover all the reading skills. For example, extra educational programmes that address reading for learners with visual impairment should be implemented. Learners will need sizable periods to master the competencies required in the core school curriculum.

The concern about reading progress seems to have an overall impact on all aspects of reading skills. Tobin and Hill (2012), questioned whether it is possible to isolate a particular sub-skill, such as reading competence, reading accuracy or speed to determine how overall reading development

is affected. Besides reading, spelling was also seen as a problem for learners with low vision since spelling is easier when one can see the letters.

Teachers of visually impaired learners often report that their learners are poor readers (Gomper, van Bon, Schreuder, & Adriaansen, 2002). This observation was supported by various researchers that learners with visual impairment do not read as well as sighted learners of the same age (Tallon & Herzberg, 2013). Reading speed is mostly related to their visual acuity: the higher the acuity, the better the reading performance.

One of the challenges in reading development with visually impaired learners is code-switching. Nordquist (2019), defines code-switching as a practice of moving back and forth between languages or between two dialects or registers of the same language at one time. In this study, code-switching is shifting from English to Oshikwanyama or the other way round.

Lastly, Lewis, D'Andrea and Rosenblum (2012), posit that there is a lack of consistency in the way that teachers of visually impaired learners are equipped in teaching braille literacy skills. Blankenship (2008), further argues that some “teachers reported that although they have learned the braille code, they experience difficulties on how to teach braille or infuse it into literacy instructions” (p.198). This demonstrates that teachers teaching visually impaired learners will need proper training in braille code to be able to develop reading skills with visually impaired learners.

To sum up, teachers are unable to teach/develop reading skills using braille, because they lack the skill to teach braille. Thus, learners with visual impairments may lack interest in learning to read braille and some never master the braille symbols system as demonstrated in Figure 5 (Greaney & Reason, 2000). Literature reveals that in uncontracted braille, the alphabet letters are represented individually as in sight print (Hong & Erin, 2004). Most teachers who teach learners with visual impairments believe that the introduction of uncontracted braille may improve reading fluency, vocabulary, and comprehension and help to increase positive social experiences with sighted peers as stated by Serino (2009). Contracted braille is mastered when introduced early and fewer pages in reading and writing were observed. Thus, Hong and Erin (2004), acknowledged space-saving as an advantage of contracted braille, stating that “many frequently used words save a lot of space although frequent errors were detected” (p.326). These authors suggested that some braille codes

within contracted braille might have to be reconsidered because it is associated with error patterns and is not necessarily efficient for saving space.

2.8. Conclusion

This chapter was a review of local and international literature which informs my research study. It presented a discussion of what other researchers have studied and published around the development of reading skills with visually impaired learners and formed the conceptual framework of my study.

The next chapter will focus on the theory of practice architectures (ToPA) as a lens to analyse the data generated in this study.

CHAPTER THREE

3. Theoretical Framework

3.1. Introduction to the Theory

Kemmis's (2009), theory of practice architecture is informed predominantly by Aristotle, Marx and Schatzki. Aristotle and Marx contribute to this theory through their reference to praxis. The word praxis will be explained further within this chapter. These authors describe the notion of praxis as an action which intends for the good of individuals and humankind. It is an action with moral, social and political consequences (Salamon, et al., 2014). Schatzki (2002) locates the theory ontologically, emphasising the “site of the social” (p.44). For him, practices are social and situated within an interdependent web of relationships (Mahon, et al., 2017). According to Kemmis (2014), the theory of practice architecture is “a lens that enables us to explain the practice and see how things happened, how things are mediated and how they can be transformed in education through various perspectives” (p.4). In other words, the theory of practice architecture (ToPA) is a theory of change. The theory of practice architecture (ToPA) posits that the social world is composed of three dimensions, specifically, “three dimensions of intersubjectivity” (Kemmis et al, (2014) p. 23). Figure 8 below, illustrates how the cultural discursive, material economic and social-political arrangements together shape or prefigure and make possible practice. These three arrangements will be further discussed in this chapter. These arrangements are the pre-conditions that make practice possible and hold it in place. They are interwoven; bundled together in practice and in places what Schatzki (2002) refers to as ‘sites’.

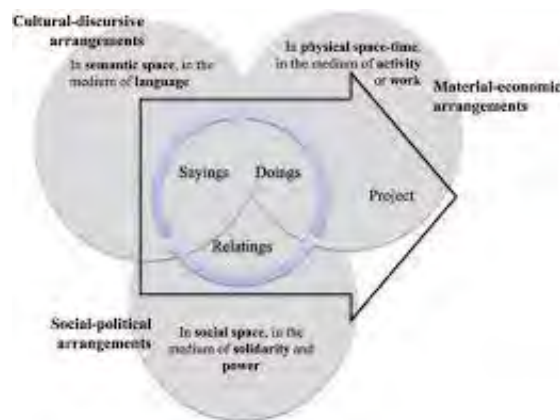


Figure 8: The media and spaces in which sayings, doings and relating's exist (From Kemmis et al. 2014 p. 34).

The Theory of Practice Architectures (ToPA) is a practice. Practice is defined as a form of socially established human activity in which characteristic arrangements of ‘sayings’, language and discourses are relevant. The actions or activities ‘doings’ are understood in terms of arrangements and ‘relatings’ in which people are relating to each other in a distinctive project (Kemmis et al., 2014). In my study, I will use ToPA as a lens to determine how teachers develop reading skills with visually impaired learners, particularly in the understanding of teaching practices when reading braille.

Within this theory, three dimensions will inform the teaching practice. The aim is to understand and critique the unfolding teaching practice that develops braille reading. The three-dimension of practice consists of ‘sayings’, ‘doings’, and ‘relating’. Kemmis et al. (2014), denote the three dimensions of practice as interdependent, interconnected and simultaneously occurring entities. That means that these dimensions could be considered as triplets, present and together in a distinctive project of a classroom such as when braille reading is taught. Kemmis (2014) refers to the ‘sayings’, as the language characteristic of the teaching practice, the ‘doings’, refers to the type of activities learners and teachers engage in during the teaching of reading skills while ‘relatings’ signifies how teachers and learners relate to each other in terms of obeying class rules or responding to questions posed during reading lessons. They argue that the interconnected ways of ‘sayings’, ‘doings’ and ‘relating’ constitute the teaching practice.

The ‘sayings’ in this study referred to the way the meaning of words is acquired: by sensory experiences, by language and thinking or a combination of both (Vervloed, Loijens & Waller, 2014). This translates into saying that some visually impaired learners rely more on touch and hearing to acquire the meaning of words. The language used in teaching braille reading focuses on the reading instructions examining what was said, and the interaction during reading lessons. For instance, the learning and teaching of letter sounds, vocabulary and comprehension of texts linking it to contracted (Grade 1 or alphabetical braille) and uncontracted (Grade 2 - 3 or abbreviated braille) braille reading and how the particular ‘saying’, ‘doings’ and ‘relatings’ influence reading skills. The ‘doings’ are the strategies teachers will utilise in developing reading instructions for visually impaired learners and how effective these strategies are. According to Setiawan, et al., (2020), several reading strategies for learners with visual impairments such as reading paper strategies, reading e-text and auditory strategies may be employed. These reading strategies include the

following: large print copy, regular print, handheld/video magnification, auditory support and live readers to mention a few. Similarly, the theory of practice will effectively zoom in on the teaching practices that both teachers and learners co-produce through their language, actions, and interactions with each other as the reading lesson unfolds (Kemmis, et al., 2014).

3.2 Arrangements within the Theory of Practice

Apart from the three dimensions, ToPA is identified as three kinds of arrangements that exist at the same time in a site of teaching practice. The theory is a useful tool to explore and understand the enabling and constraining factors that teachers and learners experience during braille reading lessons. According to Kemmis, et al. (2014), these three arrangements are: (1) the *cultural-discursive arrangement which refers* to the ‘sayings’. The sayings are revealed in the language used in the teaching practice that will enable or constrain the activities of ‘sayings’ during reading lesson discussion. For instance, the way learners respond to questions from a story read by the teacher could be an enabling factor. Time allocated to reading could constrain the teaching practice if it is insufficient.

Active participation during reading lessons is an enabling factor that supports the development of reading skills. (2) *Material economic arrangement* refers to the ‘doings’. These are resources that shape the ‘doings’ of teaching practice. What teachers do when interacting with learners during reading lessons in the classroom falls within this arrangement. The material economic arrangements might constrain or enable the activities of developing reading skills affecting what, when, how, and by whom the activity is enacted (Mahon et al. 2017). For instance, a lack of braille machines or magnifying lenses could constrain a teacher’s practice while the use of resources such as egg boxes and stones enable the teaching practice; (3) *Social-political arrangements* are the resources that shape the teaching practice of reading braille that might constrain or enable the ‘relatings’ in the classroom. This could be classroom dialogue on handling the braille machines, reader books and rules for reading in the classroom. Kemmis et al. (2014), thus emphasise how teachers and learners relate to each other in terms of class rules, hierarchies and solidarities.

Kemmis et al. (2014), further argue that will enable me to dig deeper into what constitutes teaching practice and the ‘happenings’ in the classroom during reading lessons. In addition, this theory

enables me to examine how the happenings in the classroom are shaped by the *sayings, doings* and *relatings* that occur during reading lessons.

ToPA is seen as a lens that enables one to “zoom-out” and find ways in which cultural-discursive, material-economic, and social-political arrangements are influenced by each other in semantic space referring to the meanings of concepts that are disclosed in ‘sayings’ shared through language and thought or comprehension in the physical space-time (physical set up or resources) and social space (ways of relating) (Ronneman, Edward-Groves & Grotenboer, 2017). The theory of practice architecture will offer me an opportunity to look at all the happenings in the classroom to explain how teachers and learners interact in encountering one another during reading lessons through language constituted in activities and relationships.

3.3. Unpacking the concept of ‘Praxis’

Praxis is also one of the concepts that are related to the theory of practice. The theory of practice takes into account the notion that practice may be enacted as praxis (Mahon, et al, 2017). The term praxis was viewed differently by various authors. For example, Aristotle understood praxis as the action that is morally committed and informed by traditions in a field that aims for the good of those involved and humankind (Kemmis et al, 2014). However, Hegel and Marx extended Aristotle’s notion of praxis. They described praxis as a history-making machine action that signifies action as including moral, social and political consequences for those involved in and affected by it (Kemmis et al., 2014). This notion demonstrates that praxis is used in the Aristotelian sense and post-Hegelian and post-Marxian sense. Praxis can be understood in two ways: firstly, as educational action that is morally committed and informed by the right conduct, and secondly, it is viewed as the social, moral and political actions of individuals and collectives that produce and reproduce history (Edward-Groves & Grotenboer, 2015).

Praxis provides an opportunity to critically view and explore the moral intentions and consequences of moral and political actions in terms of the teaching practice in developing reading skills. These actions of moral, social and political consequences act for the good or bad, which will either promote or are hindered by, the conditions in which practices are enacted. According to Salamon et al., (2014), praxis is endangered in education today in the sense that the constraining conditions of educational practice are influenced by the laws, policies, rules and procedures. Thus,

when it becomes a simple rule-following, the moral education agency is at stake. This can be applied to the rules and procedures that inform the teaching of reading, as an example within the classroom. Hence, teaching English requires knowledge of curriculum and learning theory, pedagogical skills and practical wisdom for effective teaching (Edwards-Groves & Grootenboer, 2015). This notion also applies to teaching visually impaired learners to read using braille. These aspects are relevant and will be acknowledged in my study to emphasize the visibility of the practice theory (sayings, doings and relatings) that prefigure different types of practices for developing reading skills with visually impaired learners. Examining the teaching practices through a praxis lens will provide me with an opportunity to observe the learners' engagement in these arrangements: *cultural discursive, material-economic and social-political arrangements* in the classroom. The concept of theory of practice will be discussed in the next section.

3.4. Unpacking the concept of 'Practice'

The term practice is used widely and often uncritically to generally describe any activity, for instance, teaching and learning reading (Ronnerman, et al., 2017). More recently, the term practice has been used specifically by Kemmis and colleagues, to understand and critique the unfolding educational practices in social sites and settings. According to Kemmis et al. (2014), there are three dimensions of practice. These are interdependent, interconnected and simultaneously occurring realms. That means they hang together on a distinctive project (e.g. a reading lesson). The three dimensions of practice consist of 'sayings', 'doings' and 'relatings'. The 'sayings' refers to the language characteristic of the practice, and the 'doings' engage in activities of practice and the set-up of the practice. The 'relatings' concern the relationships between people and objects participating in the practice (Kemmis et al, 2014). Therefore, Kemmis et al. (2014) explained practice as:

A form of socially established cooperative human activity in which characteristic arrangements of actions and activities (doings) are comprehensible in terms of arrangements of relevant ideas in characteristic discourse (sayings) and when people and objects involved are distributed in characteristic arrangements of relationship (relatings), and when this complex of 'sayings', 'doings' and 'relatings' 'hangs together' in a distinctive project (p.31).

Although these particular dimensions and arrangements are connected in a distinctive project, it is crucial to identify the particular *sayings*, *doings* and *relatings* that can and do exist independently on a site. All are observed through actions that Kemmis et al. refer to as happenings at the site relating to each other (2014). All the *cultural discursive*, *material economic* and *social-political* arrangements that promote or constrain reading practices will be observed to see how they shape or are shaped by practice within my study. These arrangements are grouped as an associated whole. They are always enmeshed together in a practice and in places to give social life. Edwards- Groves and Grootenboer (2015), argues that practices in the social world hang together in three ever-present dimensions, specifically, in three dimensions of intersubjectivity formed in the sematic space, physical space-time and in social space (see the figure below)

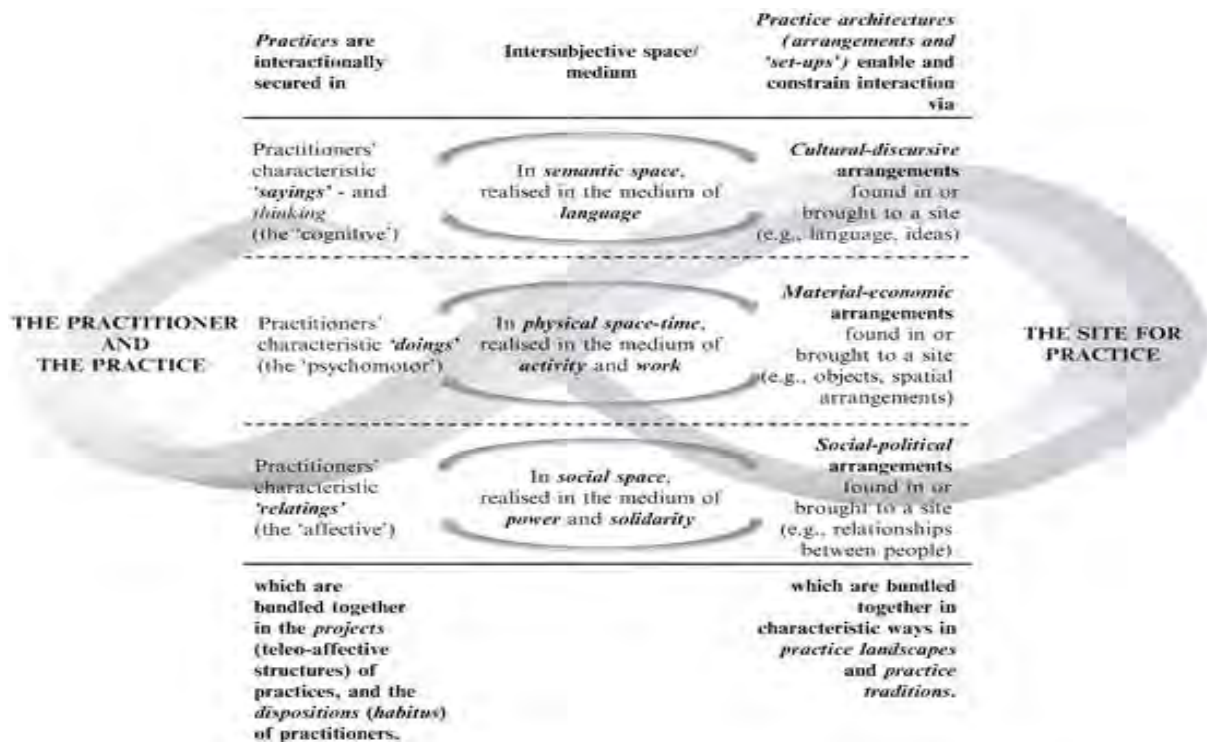


Figure 9: The theory of practice architectures (Kemmis et al., 2014)

The diagram in Fig. 9 shows how the practices encounter one another intersubjectively to be realized in the medium of language, activity and work, power and solidarity to enable and constrain the interaction within the arrangements and set-up. The projects or the structures of the practice are the actual purpose or purposes of the practice, and the dispositions of the practitioners are the “knowledge, the skills and values” (Kemmis et al., 2014, p.38) the practitioners acquire during the

development of the practice. It is important to note that the practice arrangements do not necessarily make practices immobile; in fact, they may change from time to time and from place to place (Kemmis & Mutton, 2012).

3.5 The semantic space of developing reading instruction with visually impaired learners

The semantic space is a space in which the use of a specific language related to the teaching and learning of reading skills is made possible. It is where the development of reading skills, terms and concepts are discussed and understood. Different reading concepts and terms are used during reading lessons in the classroom. My study looks at how the Junior Primary teachers engage with these terms and concepts, whether teachers and learners acquire any new knowledge; what makes the teachers able or unable to effectively use these terms and concepts, and the language instructions. For instance, the terms and concepts used as they appear in the curriculum include phonics, phonemic awareness, vocabulary, and fluency, contracted and uncontracted braille. Some of these terms and concepts are broad and it is very interesting to find out what ideas teachers hold about them in developing braille reading. These constitute the characteristics of ‘sayings’ related to the development of reading instructions for visually impaired learners.

3.6 The physical space of developing reading skills with visually impaired learners

This is the space in which it is possible to carry out activities and actions relating to the development of reading instructions in braille. My study looks at the activities teachers and learners are engaged in during reading lessons, what they do and how they do it, and what reading skills they acquire, how these skills bring changes or benefit the learners in developing their braille reading skills. It further looks at the physical set-ups of the classrooms which enable or constrain the learning process for the learners. This includes but is not limited to the availability of class furniture, the availability of braille resources that support teaching and learning and the classroom capacity. The element of time is also looked into in terms of how it affects the process of developing reading skills and how it affects teaching and learning in the classroom. The periods of reading lessons in the timetable, the time allocated to reading activities, and the time of teaching and learning in print and braille are all considered.

3.7 The social space of developing reading skills with visually impaired learners

In this space, the relationship between teachers and learners is looked at. These relationships are very broad. They include the school and class rules, the language policy and the curriculum itself. The relationships are both formal and informal in that they are realised within the education system as well as in non-formal spaces. This means that they also “occur outside the school’s environment” (Kemmis & Heikkinen, 2011, p.10). An example of a non-formal relationship is the fact that teachers and learners are not only expected to develop reading skills in braille, but in the process, teachers also have to show love and care as they teach and learn reading in braille. These ‘relatings’ or relationships are important as they shape how the development of reading skills with the visually impaired unfolds.

3.8 Three dimensions within the Theory of Practice Architectures

ToPA is a theoretical account of what practices are composed of and how practices shape and are shaped by the arrangements in which they are enmeshed in a site of practice (Mahon et al., 2017). This means that the theory of practice attends to the ways practices are formed socially involving characteristics as follows: (a) The forms of understanding of languages and discourses, (b) Modes of action or activities presented in the doings of things and (c) Ways in which people relate to one another and the world (Ronneman et al., 2017). The three dimensions are connected in a particular site to analyse the happenings within teaching practices.

Using ToPA as an analytical tool enabled me to understand the development of reading skills with visually impaired learners as well as the teaching practices that are new or already exist within the site. For instance, the ‘sayings’ refer to the meaning of concepts used to develop reading with visually impaired learners. An example of this would be how phonics is taught, and how comprehension and vocabulary are conveyed within the braille system. The ‘doings’ are the methods and activities done by both teachers and learners during reading lessons. For example, guided reading, shared reading, pair reading, spelling and resources, e.g. books, desks and computers are used. Apart from that, physical setups for the class arrangement for reading in groups, whole class or sitting on the floor is counted as part of the ‘doings’. ‘Relatings’ refers to the relationship and ways learners relate to one another in reading lessons or activities. Within this arrangement, practices are distinctive and characterised in teaching and learning reading. In addition, the arrangements simultaneously hang together in the ‘doings’ of the practice and each is enabled and constrained by the other, and in the way, they are conducted. These dimensions of

practice are interdependent and intertwined always forming, reforming and transforming each other (Edwards-Groves and Grootenboer, 2015). Within this research, I discovered the language and different reading methods that teachers utilise to develop reading with visually impaired learners, how they interpret learning and the nature of the interaction between the learners and the teacher.

3.9 Conclusion

In conclusion, ToPA allowed me to find the possible conditions that shaped the teaching of reading to visually impaired learners. It enabled me to ascertain what kind of practices are possible and supported by the theory of practice architectures. Observing different teaching strategies to teach reading in the school enabled me not only to identify the kinds of arrangements that shape the practice but also why the practice takes the shape. It provided opportunities to identify where changes to practice can be made that will be beneficial for the teacher and the learner. Lastly, it assisted me in answering my second research question, i.e. what are the promoting/constraining factors in developing reading skills with visually impaired learners.

The next chapter will focus on the methodology used and will reveal the orientation of my study, the research tools, how the data was generated and analysed, as well as the validity and ethical issues.

CHAPTER FOUR

4. Research Methodology

4.1 Introduction

This chapter discusses the methodological consideration of this study by providing the rationale that explains the approach I employed in conducting this study. The chapter commences with the aims and research questions that guided the study. From this point, I move to the research orientation, site and participants of the study. Data generating tools and data analysis will also be addressed. Finally, the chapter presents the issues of validity and trustworthiness, as well as ethical considerations employed during the research process.

4.2 Aims and research questions

The overall goals of this study were to: (1) understand and explore how junior primary teachers in a special school develop visually impaired learners' reading skills, and (2) identify the factors that hinder or promote the development of reading skills with visually impaired learners. The research was guided by two main questions:

- How do Junior Primary teachers develop visually impaired learners' reading skills?
- What are the enabling / constraining factors in teaching visually impaired learners reading skills?

4.3 Research Orientations

My study was located within the interpretivist paradigm and used a qualitative case study approach. In interpretivist research, the research aims to gain a greater understanding of how people make sense of the environment in which they live (Cohen, Manion & Morrison, 2011). In the interpretive paradigm, "human beings through experience of the world and other people, construct their own realities and make their own meanings, that includes how they respond to phenomenon and how they feel" (Cohen et al., 2014, p.22). As people make sense of their own environment and construct their own realities, people's experiences and understandings are subjective. In line with this thinking, I considered the interpretive approach most suitable for my study because the study seeks to understand how Junior Primary teachers develop the reading skills of visually impaired learners through observing their teaching practices. Moreover, Cohen et al.

(2018) explain that the interpretivist researcher “is committed to understanding social phenomena from the actor's own perspective and examining how the world is experienced ... the important reality is what people perceive it to be” (p.19). In addition, interpretive research also suggests that knowledge is constructed not only by observable phenomena, but also by descriptions of people's intentions, beliefs, values and reasons, meaning making and self- understanding (Bertram and Christiansen, 2014). This suggests that the participants and researcher interpret the world based on their subjective experiences.

The research is qualitative because it aims to understand a particular social situation, event, role, group or interaction (Creswell, 2003). Qualitative research provides “an in-depth, intricate and detailed understanding of meanings, actions, non-observable as well as observable phenomena, attitudes, intentions and behaviours” (Cohen et al., 2018, p.288). Moreover, qualitative research is used by individuals to make sense of the world around them, namely, “understanding their interpretations of the world around them” (Cohen et al., 2011, p.23). The data generated in qualitative research is interpreted and not ‘found’. This translates to say, qualitative research generally provides rich and in-depth set of data (Bertram and Christiansen, 2014), rather than that which can be counted (p.42). I then proceeded to the research style as discussed below.

4.4 Case Study

To understand how Junior Primary teachers develop reading skills with visually impaired learners, I adopted a case study approach which refers to a systematic and in-depth study of one case in its context where the case may be a person or a group of people (Bertram and Christiansen, 2014). According to Cohen, et al., (2011), a case study provides a unique example of real people in a real situation. This means that the case study aims to describe what it is like to be in any particular situation, so [it is] generally descriptive “in nature” and the researcher “aims to capture the ‘reality’ of the participants’ lived experiences and thoughts about a particular situation” (Cohen et al. p.376, 2018).

A case study approach enabled me to observe how the participants perceive and experience the teaching of reading to learners who experience visual impairment challenges. Since each research context is unique, the advantage of using a case study approach is that it enabled me to examine,

probe, understand and report the real-life, unfolding interactions of events, human relationships, and other factors in a unique instance (Manion & Morrison, 2011).

However, in choosing a case study approach for this research project, I was fully aware of the limitations and implications embedded within this approach. For instance, Merriam (2001), argues that case studies generate large amounts of data, which often result in lengthy reports and extended fieldwork. Data recorded on audio and video recorders were kept safe and transferred into a folder on a computer. I transcribed the recordings and managed the amount of data collected. The large amount of data generated was therefore not a limitation in my study; on the contrary, it has led to rich findings.

4.5 Research Site

This research was carried out at an urban state school. The selected school is a special school catering to hearing and visually impaired learners. Whilst the school caters for both forms of impairment, my focus remained on visual impairment. Etale Resource School (pseudonym) - for the Visually Impaired, is located in the Ompundja circuit in the Oshana education region, situated at the heart of Ongwediva. This is a town in the Northern part of Namibia. The school was established in 1978. At the time of this study, the school had 375 learners from Grades 0-9. There are 45 qualified class teachers and 4 assistant teachers who have specialised in sign language and braille. The language of learning and teaching at the school is Oshikwanyama (mother tongue) for visually impaired learners from Grades 0-3. English becomes the language of instruction in Grades 4-9. English is the second language for the learners in this school. This study focused on the Junior Primary class teachers who teach visually impaired learners from Grade 1 to 3.

4.6 Participants and Sampling

According to Cohen, et al., (2011), a sample is “a representative of the total population” (p.143). Sampling involves making decisions about which people, settings, events or behaviours to include in the study (Bertram and Christiansen, 2014). The study used purposive and convenience sampling because I conducted this study with Junior Primary teachers at the school where I taught. Purposive sampling provides access to “research participants’ experiences of their settings, incidents, events and activities” (Maree, 2007, p.79) that are likely to enrich the data that is to be collected. I had chosen this site as it was convenient for me to obtain access to the participants.

There are only three Junior Primary teachers from the visually impaired section of the school. Hence these were the teachers who participated in the research. These teachers were purposively chosen because the school have only three junior primary classes. Apart from that, there were two non-participant observers present to level out the biases in this research method and to check the process of collecting data during reading lessons. I had purposively chosen Grades 1 - 3 teachers (one teacher per grade) because formal school literacy begins at this level. This allowed me to understand how the teachers develop reading skills for visually impaired learners in each grade. Additionally, I was able to observe and receive feedback from the teachers regarding factors that promote or hinder reading skills for visually impaired learners.

4.7 Research instruments/data-generating tools

Various methods of data collection were used to ensure that the qualitative nature of this study is fully taken advantage of. The purpose of using multiple methods of data collection was to ensure that the limitation and shortfall of one method may be complemented by one or more of the other methods of data collection (Maxwell, 2008). This strengthens the trustworthiness of the data (Maree, 2007). In addition, collecting data from multiple sources enabled a greater understanding of the teachers' strategies to develop reading skills. The data of the study was collected using observation, focus group interviews and one-on-one interviews (stimulated-recall). A Stimulated Recall interview is an introspection procedure in which (normally) video-taped passages of behaviour are replayed to individuals to stimulate recall of their concurrent cognitive activity (Lyle, 2003). It has been used successfully in educational research as it has the potential to capture and reveal real classroom situations. I used Stimulated Recall to video record participant teachers' reading strategies and other learning processes in developing reading skills. It also allowed me to probe the participants' thoughts, actions and activities. Participant teachers were video recorded once each during reading lessons and asked questions later as part of the individual interview process.

4.8 Observation

One of the data-generating tools I used was semi-structured observation. As described by Rule and John (2011), observation is a way of gathering data by watching behaviours and events or noticing physical characteristics in their natural setting. A semi-structured observation schedule was used

to observe teachers' classroom practices in developing the reading capabilities of visually impaired learners.

This tool (see appendix E) provided me with an overview of the participants' actions, concepts and behaviours in their daily practice of developing reading skills for students with visual impairments. The observation method was used to gain an understanding of the 'happenings' as Kemmis et al. (2014), emphasized in the Theory of Practice that all the actions and activities in the classroom are related to the development of visually-impaired learners' reading skills. In addition, conducting lesson observations assisted me, as a researcher, to see things that the participants did not talk about during the stimulated video recall interview.

I was a non-participant observer during lesson presentations, whereby, I observed the teachers' practices and tried to remain as unobtrusive as possible to keep the potential influence to a minimum. I observed each teacher three times during reading lessons in English and video recorded one reading lesson for each teacher. My focus was to observe the enablements and constraints encountered during a reading lesson. I video-recorded the observed events in the classrooms to review the data generated. The video recordings were used for stimulated recall purposes.

4.9 Interviews

According to Rule & John (2011), semi-structured interviews can be thought of as a "guided conversation" (p.64) between a researcher and a participant. I used two types of interviews in my study: a stimulated video recall interview conducted on an individual basis and a focus group interview. In this study, a stimulated recall video interview was conducted with each of the three teachers. The interviews were conducted in English even though the home language of the teachers is Oshikwanyama. The reason for using semi-structured interviews (see appendix F) was to provide an opportunity for the teachers to explain the rationale and strategies behind their practices in teaching reading. This also gave me the chance to ask questions for clarification purposes. This enabled me, as the interviewer, to probe further if the respondents' answers were too brief, or if there was no initial response. The stimulated-recall interviews were audio-recorded, transcribed by me and then given to the participants to read. Returning the transcriptions to the participants was for member-checking purposes.

4.10 Focus group interviews

Focus group interviews allow for interaction among participants in which one can easily get multiple answers to the same question (Rule & John, 2011). Cohen et.al (2011), defines a focus group interview as “a form of group interview...between interviewer and group whereby the data obtained is collective rather than individual” (p.436). I conducted the focus group interview with the three teachers to gain information on how Junior Primary teachers introduce braille reading and to ascertain the enabling and constraining factors in developing reading skills with visually impaired learners. These interviews were conducted in English. A focus group interview also serves the purpose of finding out participants’ views, experiences and feelings towards the development of reading skills with visually impaired learners (Rule & John, 2011). With the participants’ permission, the focus group interview was audio-recorded after which I transcribed the data (see appendix H).

4.11 Data analysis

Qualitative data analysis is a process of how the researcher understands, explains and interprets the data based on the research questions. Cohen, Manion and Morrison (2018), suggest that there is no single or correct way to analyse and present qualitative data; mostly the researcher decides based on fit-for-purpose. I made use of the steps Merriam (2001) proposed to make sense of the data from the generating tools. These data analysis steps are discussed as follows:

1. *Preparing and organising the data:* I transcribed the observation notes, the recordings of the stimulated-recall interviews, the focus group interview and the video recordings of the lessons into a folder as a way of organising the data, known as data management. All the collected data were organised on different sheets in a separate file for each teacher. For ease of reference, each file was labelled using a pseudonym for the respective teacher. For instance, T1, T2, and T3.
2. *Describing and presenting the data:* I read and re-read the data from the transcripts of the interviews and observations to make meaning out of it. In the process of reading the data, notes of the happenings in the classroom were taken and related to coding.
3. *Analysing the data:* Data was examined and categorised into key concepts and coded to see what emerged from it. The theory of practice architectures was used to analyse the data

through colour coding and recoded to identify the ‘sayings’, doings’ and ‘relatings’ following the theoretical framework used in this study. For example, what were the preconditions that enabled and/or constrained the teaching practice in developing reading skills with visually impaired learners? According to Salamon et al.(2014), data generated from observation, and the interviews was analysed both inductively and deductively. Inductively means that the data was organised into categories and patterns were identified among the categories while deductively the data was put in categories and organised linking it to the theory that inform the research to get the patterns and the connections (Bertram and Christiansen, 2014). ToPA was used to analyse the data collected. Thus, Salamon (2014), argue that “to date, the theory of practice architectures have been mostly used in the analysis of data and theoretical grounding of educational research” (p.439).

4. *Reporting the findings:* I reflected on the findings and linked these to the literature discussed in Chapter 2 of the presentation and discussion of data.
5. *Validity of the data:* The data collected from observation and interviews were joined to offer triangulation, and shared among the participants to ensure credibility, dependability and confirmability.

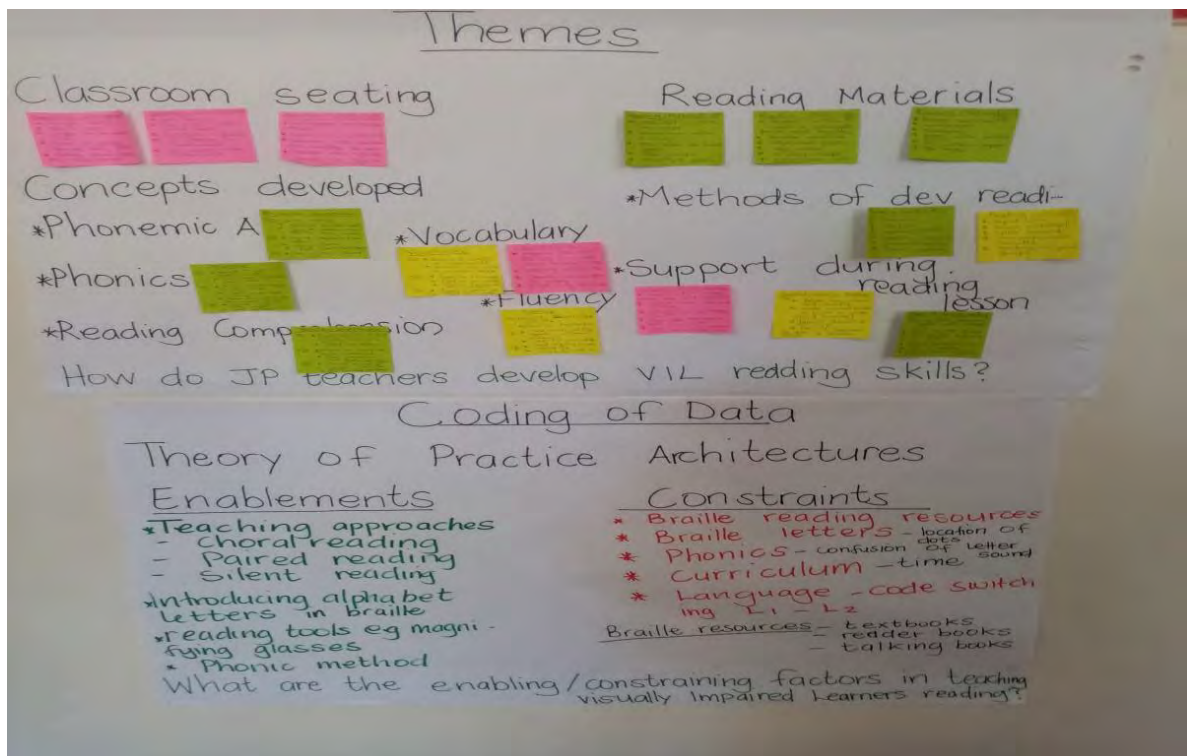


Figure 10: A picture of the colour coding of the data (Photo taken by the teacher, 2021)

4.12 Validity, trustworthiness and triangulation

According to Cohen, Manion and Morrison (2007), data is valid if it is seen as accurate by all parties involved (researcher and participant). To ensure that this qualitative case study was trustworthy, I ensured that the case study research questions were clear and achievable. As a researcher, I strived to acknowledge and respect my participants in terms of the data collection. The data generated was managed and analysed systematically to get accurate data through observation and interviews (Baxter & Jack, 2008). To enhance credibility, the data gathered and analysed from the classroom observations were compared with the information gathered from the stimulated-recall interview and the focus group interview. This strengthened the data triangulation as it came from various data sources.

Triangulation of data sources is a primary strategy that can be utilised and supports the principle in case study research that the phenomena be viewed and explored from multiple perspectives (Baxter & Jack, 2008). The principle of this study was to understand how Junior Primary teachers develop reading skills with visually impaired learners. Hence, it was important to use different data generating tools.

4.13 Positionality

As the principal of the school where I conducted my research, I was well aware of the potential power relations between the participants and me. I realised my insider positionality in this study may influence the participants' decision whether to participate or not in this research. According to Chavez (2008), insider positionality is about "sharing multiple identities such as race, ethnicity, and class with participants" (p.475). The advantage of insider positionality is that I had commonalities with the participants and this helped me to gather rich data from the participants. To address the issue of power dynamics I minimised my influence by building a positive rapport and trust with the participant teachers to encourage them to be open, honest and frank with me. During the first meeting, I ensured that the participant teachers clearly understood the purpose of the study and that this research had no bearing on their relationship with me as a principal. I also positioned myself as a learner in this study because I was learning from them how they develop reading skills with visually impaired learners.

Even though power relations might be a challenge during gathering data, two non-participant teachers were employed to be part of the study as observers during classroom observation and interviews. The role of the non-participant observers was to check the process of collecting data during reading lessons and see how teachers and learners develop reading skills in braille to ensure data credibility and reliability. The intention of using non-participant observers was to mitigate potential power dynamics. Throughout the research process, I reflected on my role as a researcher rather than a principal. I acknowledged the participants' classroom experiences, which were central to my research. It was important for me to conduct myself professionally during my research process by respecting the cultural practices of the classrooms in terms of language, actions and personal conduct adhering to the code of conduct.

4.14 Ethical consideration

Ethical considerations play a major role in research. I was aware of and attended to ethical considerations in my research (Gay, Mills, & Airasian, 2009). Ethics in research is important and as a researcher, I needed to ensure that the three basic ethical principles were considered namely: autonomy, non-maleficence and beneficence (Bertram and Christiansen, 2014). To explore the development of reading skills with visually impaired learners, I received permission from both the Director of Education and Inspector to carry out the research. Participants were asked verbally and in writing to participate in the research. Parents were informed about video recording during lessons through consent letters (see appendix B) They were informed that they have a right to withdraw at any stage of the research even though their child is not directly involved in the research. Participants' identities as well as that of the school were protected through pseudonyms. Permission was obtained from the participants to video-record the agreed-upon reading lessons. This research, therefore, ensured that the participants in my research study were not exposed to any harm (Maree, 2007).

Participants were treated with respect and dignity. I obtained site and participants informed consent before the study commenced. This is because "permission to conduct research in a school does not substitute the informed consent of parents" (Wasenaar, 2007, p.3). I assured the participants that the information they shared with me would only be shared with my supervisors and that their identity in the resulting documents, such as the thesis and classroom observations were protected

through pseudonyms. Thus, their anonymity was assured. The information would be shared through the thesis and possible papers and/or journal articles that might emanate from this study. Even though a pseudonym was used for the name of the school, I could only endeavour to keep the school's anonymity. Because of the nature of the school, anonymity cannot be assured.

4.15 Conclusion

This chapter presents the methodology aspects that were employed to answer the sub-research questions that were stated earlier in this chapter. Construing various literature about research design and the data collection process, enlightened me concerning how research should be conducted using different data collection methods and tools, as I have described. In support of the purposes of this chapter, Creswell (2003) indicates that methodology is an encompassing term that discusses the way scholars approach a case under study, in their search to understand it and seek solutions to the posed research questions. In the next chapter, my attention turns to data presentation and the discussion of findings.

CHAPTER FIVE

5. Presentation and Discussion of findings

5.1 Introduction

The main aim of this chapter is to present the data gathered as mentioned in chapter four thereby providing the readers with the authentic views of participants regarding their understanding of how teachers develop visually impaired learners' reading skills in the Junior Primary Phase in Namibia. This chapter presents the findings as themes and draws on the relevant literature to support the claims being made. ToPA is used as an analytical tool to comprehend the development of reading skills of visually impaired learners and teaching practices. This sheds a nuanced deeper understanding of the three arrangements within ToPA that promotes or constrains the practices of reading skills.

The data was gathered through different types of interviews being: stimulated video recall interviews, focus group interview and observation as highlighted in the methodology chapter of the thesis. This chapter is organised in two sections in response to the following two main research questions:

1. How do junior Primary teachers develop visually impaired learners' reading skills?
2. What are the enabling / constraining factors in teaching visually impaired learners reading skills?

The data gathered in response to these focus areas are presented and discussed according to the themes generated from the following data sources. I first analysed the classroom observations, individual interviews and the focus group interview. Relevant data that emerged were labelled in different colours, which served as coding as indicated in figure 10.

1. The classroom seating arrangements
2. The reading materials used
3. How the following reading skill concepts were developed?
 - (a) Phonemic awareness

(b) Phonics

(c) Reading comprehension

(d) Vocabulary

(e) Fluency

4. How are learners supported during reading lessons?

5. Challenges experienced during reading lessons

I used different codes in making references to the source of raw data (this includes the tools and participants) in the data presentation and discussion.

Table 1: Codes for data sources enabling data management

PARTICIPANT	CODES
Grade 1 teacher	T1
Grade 2 teacher	T2
Grade 3 teacher	T3
OTHER SOURCES	
Observation Notes	OBN 1-3
Focus Group Interview	FGI
Stimulated Video Recall Interview	SVRI

In the first section, I present and discuss my findings of the research study. The findings are organised around themes in response to the research questions. I have unpacked each data source separately.

The study focused on the development of visually impaired learners' reading skills. It was important to summarize the data generated from the observation notes and the stimulated video recall interview in answering my main two research questions. Data generated in response to these questions was generated focusing on the following data sources and I will directly present and discuss the findings in response to my research questions.

5.2 Classroom observation

Since the interest of this study was on how Junior Primary teachers develop visually impaired learners reading skills, it was significant that I explored how the Junior primary teachers arrange their classrooms during developing reading skills with visually impaired learners. I observed each of these teachers during reading lessons three times and interviewed them using a stimulated video recall to understand the development of visually impaired learners' reading skills. Using a stimulated video recall prevented information from being distorted or lost. It also allowed me to probe further to enhance my understanding of the teachers' practices.

Each Junior Primary teacher arranged their classroom differently with a variety of ideas. As Cox and Dykes (2001), mentioned that teachers must be sure that they are informed about the abilities of learners with visual impairment, and their effect on learning reading and integration in the general classroom environment. Thus, the classroom arrangement with visually impaired learners in an educational setting is found to be relevant.

I have categorised the different views regarding the classroom arrangements into sub-themes namely: seating arrangements, reading corners and class rules. These are discussed hereunder:

5.2.1 Seating arrangements

Seating arrangements of learners with visual impairment determine where best learners can see and their ideal position to sit (Cox & Dykes, 2001). During the reading lesson, I observed that some participant teachers arrange learners to sit singly in rows facing the chalkboard based on the learners' visual fields and others in groups (OBN 1). Learners with low vision sat close to the chalkboard while completely blind learners sat a bit further from the chalkboard. Some learners were observed sitting in rows alone on single chairs and desks in Grade 1 and 3 (OBN 2). A participant teacher indicated that "*I arrange my class by putting low vision learners sit on the chairs near the chalkboard and learners that using braille at the back of the class*" (SVRI-T3). Another participant teacher mentioned that "*sitting arrangements for my learners is based on how far learners see on the chalkboard*" (SVRI-T2). Literature suggested that a learner's position in the class relative to the visual presentation should allow for an unobstructed view (Cox & Dykes, 2001). In some classes, I observed that visually impaired learners were either working in pairs or groups (OBN 3). One participant teacher indicated that "*Sometimes I make them sit two and I*

divide the table with a paper to keep the distance because COVID-19” (SVRI-T1) and the Grade 2 teacher also indicated that *“I normally arrange my class in reading lessons for the learners to sit in groups”* (SVRI-T2).

Apart from arranging that VI learners sit close to the chalkboard or in groups, all the Junior Primary classes were observed with the classroom lights on, and the classroom doors and windows were wide open (OBN 1-3). Some learners with low vision were observed sitting away from the classroom door or window but close to the classroom’s light source, in a place that they feel comfortable with when reading. Some classes were observed with all the light bulbs working while in one classroom only two out of the four light bulbs were working. Another participant during her interview also responded that *“Some visual impaired learners preferred to sit close to the lights to see letters clearly when reading and increase their concentration”* (SVRI-T2). An additional light source in the learner's work area can be helpful for some learners (Cox & Dykes, 2001). Additional lights, such as magnifying glass lights and classroom light bulbs are beneficial to visually impaired learners during reading lessons.

During day three in some classes, learners were observed sitting in groups during reading lessons (OBN 2 & 3). One of the participant teachers mentioned that *“I normally arrange my class for the learners to sit in groups”* (SVRI-T2). On the same note, one teacher (T3) responded that *“arranging learners to sit in groups during reading motivate them to read more and those who knows to read to assist those struggling”* (SVRI).





Figure 11: The Junior Primary Phase seating arrangements for visual impairment learners (Photos taken by the teacher, 2021).

5.2.2 Reading corners

A reading corner is a comfortable space in a classroom for learners to sit and read. It requires space for keeping and displaying books (National Council of Educational Research and Training, 2013). During observation, all classes had reading corners arranged with some reading materials in print but no books printed in braille were noted. These reading materials were seen packed on a double table and a chair was made available to sit on when reading (OBN). I observed that some reading corners had braille letters on the wall (see figure 11) and a few sight words translated from print to braille (OBN) (see figure 11). One of the participant teachers mentioned that “*learners are always encouraged to utilize the reading corner in case they are done with given activities or practising reading*” (SVRI, T1). Another participant teacher said that “*the reading corner in my class helps learners to practice reading and keep up their reading culture and it also help to maintain discipline in class because learners who make noise during class activity I always refer them to the reading corner to be busy with reading while others finish writing*” (SRVI, T3). I also observed that the reading corners in all three classrooms only contained a few books and all books were for sighted learners only. There were no books specifically for visually impaired learners made available at the reading corners. This means that there were no reading books written in braille or with very large print. The National Council of Educational Research and Training (2013)

emphasizes that the reading corner should have a good collection of learners' literature that has to be carefully selected keeping in mind the need and interests of learners as well as the quality of available literature.

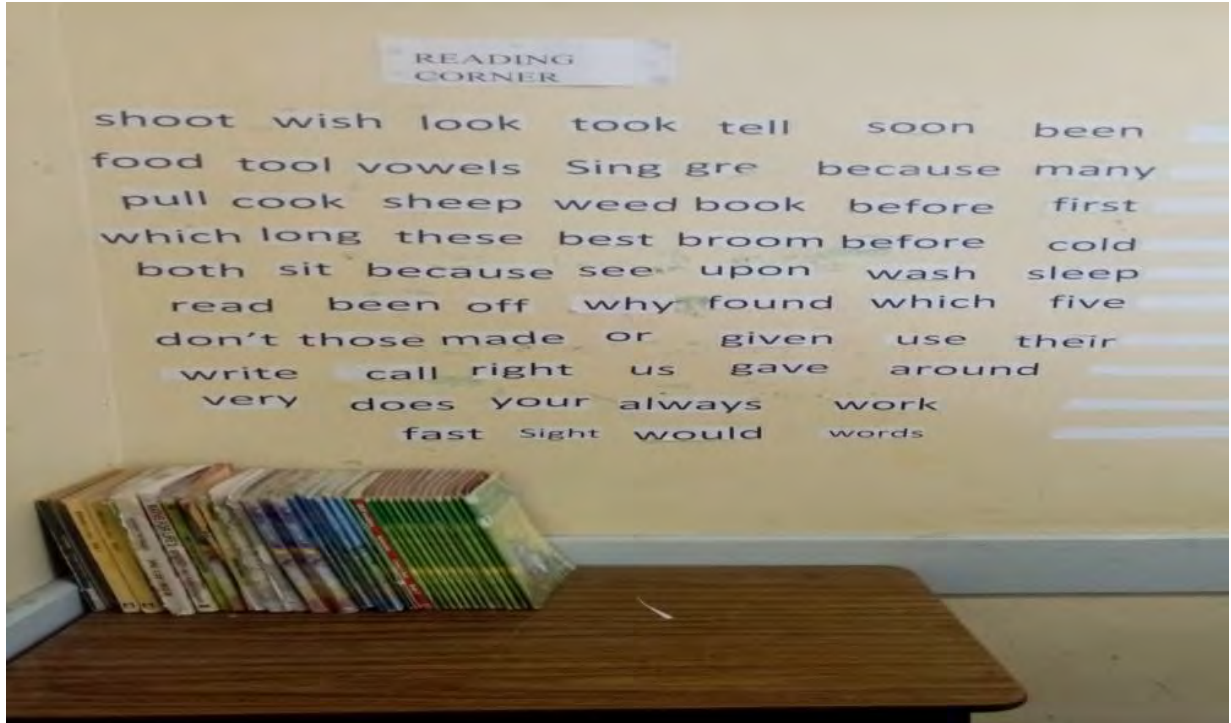




Figure 12: Reading corners Grade 1, 2 and 3(Photos taken by the teacher,2021)

5.2.3 Reading rules

Apart from class rules that were implemented to keep order in the classroom, I noted that the teachers implemented several reading rules. The teachers used segmentation, asking learners to say an individual sound in a word and dividing it into separate letters. For instance, breaking down the word dog into individual sounds as /d//o//g/ - dog or s//p//i//n/ - spin to support learners in keeping up with several reading rules. I observed that every participant teacher, before commencing with reading lessons, reminded the visually impaired learners to point where they are reading (OBN). One respondent teacher pointed out that “*learners supposed to point to the words when reading*” (SVRI - T3). Another reading rule observed was using both hands when reading braille letters (OBN).

During the interview, one participant teacher indicated that “*informing learners to use both hands helps the totally blind learners to feel the word and recognize letters in it*” (SVRI - T3). In addition, another participant teacher said that “*reading with both hands following lines prevent omitting of*

words and is fast” (SVRI - T1). These ideas correlate well with Bagshaw (2011) who emphasised that “the most common technique is to use four fingers of both hands side by side along a single line” (p.21).

5.3. Reading materials

Reading materials in braille literacy is as relevant as any teaching and learning materials. However, literature reviews on teaching English as a second language for visually impaired learners reveal a scarcity of materials in the field of vision education and applied linguistics (Arum et.al, 2021). Developing reading skills for visually impaired learners requires a variety of teaching materials. This was evident in my study that all participant teachers were observed using a variety of reading resources in developing reading skills with visually impaired learners (OBN). This was contrary to what I noted in the reading corners, where the variety was very limited. The findings indicated that teachers used flashcards, drawn pictures and posters. I observed teachers using textbooks for English but there were not enough books, or the books are not translated into braille print. Adding to this, one participant teacher mentioned that *“I use the books the textbooks for the learners in print only because no books in braille and the flashcards”* (SVRI - T3) Magnifying glasses and tactile books or egg boxes were observed as being used by some teachers during reading lessons (OBN - 3). This idea is reflected in the literature that visually impaired learners place a stone, marble or similar item into the first column of an egg box or muffin pan leaving the remaining holders empty (Kao & Mzimela, 2018). The arrangement of the stones or marbles depicts a letter in the written alphabet. One of the participant teachers in the individual interview indicated that *“teaching aids that are improvised from the environment that can form up braille cells for example using box of eggs can be used in reading”* (SVRI - T2). Another teacher mentioned that *“the use of poster with pictures and word cards is more suitable with low vision learners while totally blind learners use concrete materials e.g introducing the ‘h’ sound, word – hat”* (SVRI - T1). This view is confirmed during observation that teachers used tactile objects with totally blind learners and words or stories in braille letters while with low vision learners, enlarged words on flash cards with pictures were used (OBN). Kao and Mzimela (2018), emphasised that concrete items enable visually impaired learners to better visualize the braille dots through touch.

5.4. How reading skill concepts are developed

5.4.1 Phonemic awareness

The development of phonemic awareness of learners with visual impairments is similar to learners who are not visually impaired (Arum et al., 2021). Visually-impaired learners who use non-abbreviated braille had similar phonemic awareness skills as their sighted peers (Arum et al., 2021, p.192). There are various definitions of phonemic awareness. Shanahan (2005), defines phonemic awareness as the ability to hear and manipulate sounds within words. Alternatively, it is described as the ability to break down spoken words into segments (Arum et al., 2021). Similarly, one participant teacher views it “*as manipulation of sounds in songs or rhyme*” (SVRI - T1). Another participant teacher defined phonemic awareness “*as being able to discriminate sounds*” (SVRI - T2). Phonemic awareness is the sound within a word, for example, the word ‘cat’ has three sounds or phonemes /c// a// t/. During observation, some participant teachers introduced phonemic awareness with a song or game. For instance, while singing the ‘rhyming song’, learners were mostly seen clapping hands as they sing along (OBN - 1). SVRI - T2 commented that visually impaired learners performed well on phonemic awareness tasks when developed early “*a child has to acquire phonemic awareness skill as early as at the early ages*” This aligns with literature, rhyme production and breaking syllables, and demonstrated that developed knowledge at phoneme level should begin in the early years of language development (Arum et. al, 2021).

Phonemic awareness was developed differently in each class. I observed learners tasked to sound the beginning letter of family vocabulary in Grade 1, while the Grade 2 teacher asked learners to clap hands as they sound words of ‘u’ e. g /u//p/, /u//s/, /f//u//n, /c//u//p/ and count how many times they clap, and express the sound in each word (OBN). In contrast to that, dividing words into sounds with low vision learners might be easy because they can visualize the letters compared to blind learners who rely on sound (Arum et al., 2021). Similarly to these authors, one of the participant teachers indicated that “*learners can only manipulate sound well when they see picture of a story/words provided*” (SVRI - T2). Low vision learners will benefit from using visual aids while blind learners are not able to depend on visual aids (Cox & Dykes, 2001).

5.4.2 Phonics

Phonics refers to instructions on how letters and sounds correspond to each other and how these sound-letter correspondences can be used to decode or pronounce words in the text. The findings from observations indicated that teachers similarly introduce phonics. The Junior Primary teachers introduced phonics with songs or games of letter sounds (OBN - 1). Toussaint & Tiger (2010), observed that singing songs to visually impaired learners as they touch the braille symbols produced good results in establishing early braille letter naming and teaching the relationship between braille symbols and letter symbols. In addition, the activities provided specifically reminded the learners about the beginning letter (onset) and ending letter (rimes) of the words: the first letter (onset) e.g. **p//eg/** and last letters (rimes) **h//en/** in a word. For instance, Grade 1 learners were observed colouring the beginning sound in given words, Grade 2's played a game of sound where they pick a card of a word starting with the letter 'b' or 'h' sound whereas Grade 3 learners listened to a story and then wrote down words of the 'sh' sound (OBN).

5.4.3 Reading Comprehension

Reading comprehension is the ability to process text, and understand its meaning through word decoding and linguistic comprehension (Catts, 2018). Data gathered during observation on reading comprehension was that all participant teachers used almost the same method in developing reading comprehension. For example, they all used stories or certain texts and asked questions either orally or in writing (OBN - 2). One participant teacher mentioned that *“What normally happens is you create short stories where possible just with few sentences even with three sentences or five”* (SVRI - T2). Apart from that, some teachers were observed using a different questioning method to capture learners' understanding of a text, for example using an anticipating guide: read the story and re-tell/answer questions, read the sentences and agree/disagree, re-arranging sentences after reading a text (OBN - 3). For example, Learners were told to listen to a story and the following questions were asked: *“What did Tomas hope to do in September and Why did Tomas not feel like running when September came along?”* (OBN).

During the interview, one of the participant teachers indicated that *“I give learners a text or stories to read aloud many times and I can ask them questions orally”* (SVRI - T3). In oral comprehension, learners are expected to listen actively to a given text/story and are then asked questions (Konza, 2011). Well-informed reading comprehension includes substantial emphasis on narratives such as stories and novels. Learners can be taught to comprehend the material better

while they are reading. Shanahan (2005), mentioned that there are strategies that have been successfully used to teach reading comprehension such as summarization, questioning, and comprehension monitoring. For instance, during observation, the teacher instructed learners to read a story and asked them to retell it in three or four sentences (OBN).

5.4.4 Vocabulary

Vocabulary plays a major role in reading comprehension in both language 1 and language 2 learners since without vocabulary, reading text and understanding its meaning is not possible (Acosta, 2019). Shanahan (2005), defines vocabulary instructions as teaching word meanings because much of the reading instruction is focused on words - word recognition, sight words, word structure and word sorts. Vocabulary instruction is about teaching the meaning of words. In reading instruction, the focus is on word recognition such as word families, sight words and word structure. This view is confirmed by all the data sets and by some participants who perceived vocabulary as sight words, different words from the story, new words and spelling words (T2 & T3).

During observation, most of the teachers were seen developing vocabulary instruction through learners reading sight words every day, searching for the meaning of difficult words from the text or stories and spelling new words for the week (OBN). One participant teacher during the interview responded that “*learners search new words together and spell it or use it to construct own sentences*” (SVRI - T3). Another teacher indicated that “*Learners read five words every day like sight words, which helps learners to use those words and know how the words are spelled*”(SVRI - T2). This teacher’s view is in agreement with that of Elleman and Oslund (2019), who argue that learners acquire vocabulary at an astounding rate, on an average of 2 to 8 words per day. Once learners begin to read independently, vocabulary acquisition becomes dependent on exposure to braille/print.

5.4.5 Fluency

Fluency is defined as the ability to read with speed, accuracy, and proper expression to understand what learners have read (McLaughlin & Kammei-Hannan, 2018). During observation, I noted that teachers develop reading fluency by reading text aloud repeatedly, and by practising the use of punctuations and expression (OBN). Emphasis on pronouncing words correctly, and promoting

correct reading speed was also observed. While reading, participant teachers kept telling learners to breathe between words. Only a few learners were able to read following the instruction provided. However, teachers were observed giving certain reading rules such as: *read the words as it appears, use punctuations accordingly, learners should not read too fast or too slow and no guessing of words* (OBN). This view is also supported by Steinman, LeJeune and Kimbrough (2006), who argue that visually impaired learners use guessing strategies in the first stages of reading, based on the way they prefer reading the first letter of words. One participant teacher indicated that “*fluency is developed through read of poems, short sentences and vocabulary words repeatedly*” (SVRI - T1). Thus, the key to fluent reading is the capability of recognizing letters, spelling patterns and whole words effortlessly (Murray, 2006).

According to Shanahan (2005), fluent instruction improves fluent reading. Participant teachers were observed using different methods to develop fluency with visually impaired learners. They used the following methods: drilling method, word recognition, silent reading and paired reading (OBN). Learners should be able to read fluently whether they are reading aloud or silently.

During the interview, some participant teachers indicated that “*We provide learners with reading materials such as story books in print/braille to read aloud in pairs*” (SVRI). In addition, participant teachers also mentioned that “*we instruct learners to go to the reading corners and read in silent*” (SVRI - T2 & T3). Since fluency is the ability to read text aloud with accuracy, speed, and proper expression, activities such as paired reading, in which children take turns reading to each other, were quite useful (Shanahan, 2005).

5.4.6 How learners are supported during reading lessons

The findings indicated that the Junior Primary teachers support visually impaired learners in many different ways. According to the information gathered from observations, teachers supported learners by praising them whenever correct reading was noted. To do this, teachers used encouraging words, such as, you are a genius, well done, good and so on (OBN). This was observed during almost every lesson observed. One of the participant teachers mentioned that “*I always tells my learners to clap hands 3 times to those who reads well or progressing better with reading*” (SVRI - T2). Another participant teacher added that “*I correct learners that experience difficulty in sounding letters or pronunciation of words and praised them by clapping hands*” (SVRI - T3).

Another participant teacher was observed praising visually impaired learners during reading lessons. She always announces at the beginning of the lesson that she has sweets that will be given to learners who are trying to improve their reading. When a learner reads a word/text correctly they were awarded a sweet. I observed that this kind of praise increased the learners' participation during the reading lesson.

Apart from praising learners, the findings revealed that learners received assistance with reading tools such as magnifying glasses and enlarged print. In so doing, teachers offered further support to visually impaired learners. One participant teacher indicated that *"I provide low vision learners with magnifying glasses to help them see letters clearly when reading"* (SVRI - T1). In addition, teachers were seen assisting visually impaired learners by moving around the class, getting closer to the learners and assisting them individually in reading (OBN). Findings indicated that *"I do support them by making sure that I attend to them individually"* (SVRI - T2) and *"I support the learners one by one"* (SVRI - T3). The blind learners were supported by the teachers holding their hands to read along the lines of braille print (OBN).

The observation notes further indicated that teachers made use of other learners who are good readers to assist with phonics and fluency - especially in the pronunciation of words and spelling (OBN). During one of the interviews, one of the participant teachers responded that *"If I find out that they didn't know I will ask the whole class to read the words to read together and then later I will ask that learner to read alone"* (SVRI - T3). Another participant teacher added that *"if the learner pronounces the word wrongly I ask the learner to re-read the word repeatedly until he/she master it"* (SVRI - T2) and *"when a learner do mistakes in reading I correct it quickly and I say she or he must repeat after me"* (SVRI - T1). On the same note, the Grade 3 teacher pointed out that *"I gave them learning support after classes"* (SVRI - T3). Correcting learners immediately when reading errors occurs provides a positive impact on developing reading instruction (Chen et al., 2021).

5.4.7. Reading methods that promote braille reading

The findings indicated that all junior primary teachers in this study were using an alphabetical reading strategy as a way of introducing braille alphabetic letters to learners with visual impairments (OBN). Learners are introduced to alphabetic braille letters at the beginning of the

Junior Primary Phase to avoid delays in reading skills. This strategy is employed with blind learners while low vision learners are introduced to print letters or both in the event should they lose their sight completely (Greaney & Reason, 2000). One of the respondent teachers said: *“The best way to let learners know braille literacy is to make sure that they have mastered the braille letters and how it appears when reading”* (FGI - T2). The same participant further added that *“Introducing learners to alphabetic braille will make them understand that braille is written in six dots and realise the location of dots on a cell that make up a word”* (FGI - T2). Participant teachers were observed using the alphabetical reading braille strategy and were seen teaching by verbally informing learners that letter ‘a’ is written in dot 1, letter ‘b’ is written in dot 1 and 2, as well as how the letters appear in reading (OBN). In addition, one of the participants in the interview stated that *“Braille reading encourages finger exercise and helps learners to use both hands in reading”* (SVRI - T3). This translates to say that learners who are visually impaired and use both hands to read have developed confidence in reading and entrenched the braille letter reading strategy efficiently (Chen, et al., 2021).

Reading activities and a range of teaching approaches assisted teachers to develop reading skills with visually impaired learners. During my observation, I noted that the teachers used reading methods such as choral reading, paired reading and silent reading to improve learners reading skills (OBN). During the interview, one participant teacher mentioned that *“When learners are reading in groups it encourages them to have interest in reading”* (SVRI - T2). This view is also supported by literature, that teachers must have both pedagogy - the teaching skills to adjust to a variety of learning styles and the abilities to engage visually impaired learners in learning reading instruction (Blankenship, 2008).

Apart from reading in groups, I observed all the participant teachers using reading in pairs or groups that consist of a low vision learner and a blind learner in most cases. One of the participant teachers indicated that: *“I like to group my learners based on their vision categories to assist each other in reading. I mix them like blind with low vision in pairs or in groups reading words or a story”*(SVRI - T2). Supporting each other during reading lessons gave low vision learners the experience to assist blind learners in reading braille.

5.5 Challenges experienced during reading lessons

Despite the saying that literacy development begins at birth, some researchers have questioned the appropriateness of reading skills for visually impaired learners and additional disabilities because of the negative impact it has on the provision of more formal literacy instruction in the traditional approach to reading skills (Parker & Pogrud, 2009). It is evident from the data that teachers experience many challenges in developing reading skills with visually impaired learners. I have discussed some of the challenges below based on the data collected during observation and individual interviews.

5.5.1 Braille reading resources

One of the participant teachers revealed that *“Those braille resources are one of the major issues that prevent the development of reading instruction with VI learners”* (SVRI - T3). One of the participant teachers commented that *“There are no braille machines or embosser to translate stories from print to braille for totally blind learners”* (SVRI - T3). Another teacher responded that *“There are no reading books printed in braille to accommodate visually impaired learners”* (SVRI - T1). The participant teacher also indicated that *“The shortage of materials we do not have the braille materials we did not even receive the books that are in use we just receive the books that are in sight from the ministry”* (FGI). To add to that, one respondent teacher said that *“I did not attend any braille workshop or even get help on how to make teaching materials”* (FGI). All the participant teachers have further expressed similar sentiments that *“There are no radio, television or talking books for learners to listen to improve their reading skills”* (FGI). During the research, it was observed that there was only one tape recorder shared by all Junior Primary Grades during phonics instruction and there were no talking books observed being used in developing reading skills (OBN).

5.5.2 Phonics

The findings from observations revealed that learners confuse letter sounds in English and their mother tongue. This confusion makes it difficult for the learners to master the phonic skills required to read in English. For instance, sounding the letter ‘a’ in language 1 (Oshikwanyama) sounds the same as ‘u’ in language 2 (English). In the word: *t//a//t//e – tate* in L1 the ‘a’ sounds the same as ‘u’ in the word *u//nder* in language 2. This confusion was observed when learners were asked to read given texts aloud (OBN). One respondent teacher indicated that *“Some challenges*

that we do experience might be phonics itself that the learner cannot sound all the letters” (FGI). Phonic instructions require learners to have automated enough letter-sound knowledge to be able to read simple text accurately and with fluency. This aids the comprehension of text (Konza, 2011). Teachers were observed switching from English to their mother tongue when teaching reading, especially during the explanation of words or decoding words (OBN). When interviewed, the respondent replied that *“Switching from language 1 to language 2 helps learners with VI to comprehend what is read or improve their reading experience in manipulating letter sounds”* (SVRI).

5.5.3 Braille letters

Another challenge encountered in developing reading skills with visually impaired learners is the recognition of braille letter configuration/dots. Koe & Mzimela (2018), indicate that braille is a system of embossed signs which are formed by using combinations of six dots that are numbered and arranged in a specific manner. One participant teacher during the focus group interview respondent that *“You might also come across a learner who cannot recognize the letter shapes in braille”* (FGI). The findings further indicated that most learners with visual impairment were observed with reading errors in that they could not recognize letter configurations of the braille alphabet during reading lessons (OBN). Apart from that, learners in Grade 2 and 3 were observed confusing contracted braille with uncontracted braille. Laroche et al. (2017), argued that learners with visual impairments learned contracted braille shortly after having acquired the ability to read. This means that by using uncontracted and contracted braille at the same time, learners seem to be overloaded in learning a new code, resulting in problems with memorisation caused by the complexity of the abbreviated code (contracted braille).

The data from the interview conducted with teachers revealed that *“Learners cannot recognize braille letters when reading because they did not master the braille cell and training on braille reading finger or finger movement is needed”* (SVRI). The literature supports the idea of braille finger training by highlighting the fact that finger movement training improves reading speed and creates smoother reading movement and results in increased confidence and commitment to reading (Hughes, 2011). Moreover, Hughes (2011) went on to say that finger movements have the same potential sense as eye movements do in the case of print reading, to serve as a window into invisible reading texts.

5.5.4 Curriculum

The issue of inadequate time allocation in the timetable was also raised as a negative contributing factor in the development of braille reading for learners with visual impairments. During observation of the reading lesson, I observed that teachers were not able to complete the lesson or offer support to all the visually impaired learners. This was mostly due to insufficient time (OBN). The respondent teachers indicated that *“Time allocated to reading lesson is affecting the developing of braille reading because it is not enough”* (SVRI, T1, T2, T3). One of the teachers further said: *“Teaching reading to visually impaired learners requires ample time in a sense that as a teacher I have to teach two different reading text or stories in print and braille”* (T2). The issue of curriculum implies that developing reading with visually impaired learners needed extra time for the teachers to develop reading instruction fully. The data concur with the view expressed in literature that the reading competencies require educational time to be allocated to cover all the reading skills. Learners will need substantial longer periods to master the competencies required in the core curriculum (Koenig & Holbrook, 2000).

5.6 Conclusion

In this section, I presented data and discussed the findings on how Junior Primary teachers develop reading skills with visually impaired learners in the case study school. It emerged from various data sets that the development of reading skills with these learners took place within the classroom, in different ways. It was evident from the data presented that for teachers to develop reading skills with visually impaired learners they need to have appropriate pedagogical strategies and teaching skills to adjust to a variety of learning styles and abilities in learning content and knowledge at a high degree of reading competence (Blankenship, 2008). I presented and discussed some reading methods that promote the development of reading skills such as alphabetic braille reading, choral reading, silent reading, and paired reading and how visually impaired learners were supported during reading lessons.

Participant teachers also revealed some conditions that constrained the development of reading skills which emerged as challenges such as insufficient braille resources, braille machines, braille letters, radios, and tape recorders, as well as insufficient time in the prescribed curriculum to develop reading skills with visually impaired learners. One way or the other, some of these factors

may promote and or constrain the development of reading skills in visually impaired learners. For example, braille resources might be seen as a constraining factor because there are no adequate reading materials in braille as indicated in this section while tools to support reading e.g. magnifying glasses might be seen as a promoting factor in developing reading skills. In the next section, my attention turns to the three dimensions of ToPA and its arrangements which are: ‘sayings’, ‘doings’, ‘relatings’ and *cultural discursive, material economics* and *social-political* arrangements that promote/constrain the development of reading skills with visually impaired learners. I will now respond to the reading skills discussed in this above section using ToPA as a lens.

5.7. The Practice Architectures of developing reading skills with visually impaired learners

5. 7.1. Introduction

This section uses the theory of practice architectures to explain and discuss the reading skills lessons observed during the research. This analysis helped me to establish factors that enabled or constrained the development of reading skills lessons with visually impaired learners. Three teachers were each observed three times over three weeks as indicated in chapter four. From the nine observed lessons, I only concentrated on the five reading components for discussion purposes. These were: phonemic awareness, phonics, reading comprehension, vocabulary and fluency. Therefore, five observed lessons were analysed using the theory of practice architecture framework focusing on the reading instructions on the five mentioned components of reading. The discussion is mainly based on the observation looking at specific reading skills lessons taught and mostly answering my research questions respectively. To remind the reader the main research questions this chapter attempts to address are:

1. How do Junior Primary teachers develop visually impaired learners reading skills?
2. What are the enabling/constraining factors in teaching visually impaired learners reading skills?

Now I will focus the discussion on my observation notes (OBN) of the five lessons as per the reading skills addressed.

Practice architecture analysis involves looking at the ‘sayings’ (the language and ideas), ‘doings’ (activities, materials and space) and ‘relatings’, (relationships) in developing reading skills by each

participant teacher, and the practice architectures (enabling and constraining factors) shaping the lessons. The practice in question here is the development of reading skills for visually impaired learners.

5.7.2 Discussion of OBN lesson on developing the reading skill - Phonemic awareness

The main aim of the lesson as observed was to develop reading skills through phonemic awareness. Shanahan (2005) defines phonemic awareness as the ability to hear and manipulate sounds within words. As observed, the teacher focused on the sounds of the alphabet and provided learners with pictures of words of family related to the topic of the week. The totally blind learners were provided with real objects to feel the meaning of the words. The teacher made use of people around the school as teaching resources to represent the family words: mother, father, brother, sister and baby for learners to understand the meaning of words and to sound the beginning letters of the words correctly. The participant teacher used flashcards with written words in both print and braille.

Table 2: Practice architectures of developing reading skills - Phonemic awareness

'Sayings'	Cultural discursive arrangements
Words used during the lesson: "family" - brother, mother, father, sister and baby	The medium of instruction at school is Oshikwanyama, but the lesson was taught in English. The teachers and most of the learners speak Oshikwanyama as their home language. Teachers were observed code-switching to Oshikwanyama several times and confused the letter sound in English to Oshikwanyama.
'Doings'	Material Economic Arrangements
The teacher introduces the lessons by asking learners to sing an alphabet song and sound the alphabet letters. The teacher read the vocabulary words of the week and sounded the beginning letter of each word. The learners were further asked to sound the first letter of	The reading materials used by the teacher were flashcards, a storybook and pictures. The class does not have a radio to play songs or the sound of letters for the totally blind learners and flashcards were not enlarged for low vision learners to see well. The teacher indicated that " <i>There is no braille machine to write words in braille</i> "(T1). The lesson was observed in

<p>the same given words on flashcards. The teacher then told the learners a family story.</p> <p>The teacher continued to ask learners to sound the beginning of the words from the story. These words were: father, mother, brother, sister and baby.</p> <p>The teacher also showed pictures of the family pasting them on the invited colleagues and continued asking learners the beginning sound in each word displayed.</p> <p>Learners were supported during the lesson by being corrected in sounding the letters. Learners were reminded to say the dot configuration (in braille) of the beginning letter sound by drilling it.</p> <p>Most learners were observed recognising letters and were able to sound the beginning letter correctly although some learners confused the English and home language letter sound.</p>	<p>Grade 1 with 6 participant learners. All learners were present. Learners were observed seated at single desks facing the chalkboard. The classroom curtains and the door were closed during lesson presentations.</p> <p>The class has a reading corner with English and Oshikwanyama reader books, but very few of them. However, there were no reader books printed in braille at the reading corner.</p> <p>The teacher indicated that <i>“Lack of braille resources at school prevent the development of phonemic awareness as part of reading skills”</i> (T1).</p>
<p>‘Relating’</p>	<p>Social-Political Arrangements</p>
<p>At the beginning of the lesson, the teacher asked learners to pick up the papers on the floor.</p>	<p>Class rules were respected.</p>

Learners were actively participating during the lesson by singing the song along with the teacher and drilled the letter sound.	The Junior Primary curriculum that guided the teacher in lesson presentation was implemented in developing reading skills.
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5.7.3 Discussion of OBN lesson on developing the reading skill - Phonics

The lesson observed focused on phonics. The first part of the lesson concentrated on the vocabulary words used in a story about summer. The teacher was able to code-switch to language 1 which is Oshikwanyama to explain the difficult words found in the story. Nordquist. (2019), defines code-switching as a practice of moving back and forth between languages or between two dialects or registers of the same language at the same time. That means in this study code-switching is shifting from English to Oshikwanyama or the other way round. The total number of learners in the class was 10 during the lesson observation. The challenge observed was that the story that was read was only found in sight print. It would have been preferable if the reader books were printed in both sight and braille. Learners with low vision benefitted from this reading material because the text of the story was in enlarged print. As part of the doings: Learners learnt about phonics, of long vowels ‘ee’ and ‘oo’ sounds, including their words. Learners were able to list words with long vowels indicated and read them aloud to each other repeatedly. Concerning relationships, ‘relatings’ the teacher and learners were observed interacting with one another in reading long vowels. A challenge of disruptive behaviour of moving tables and speaking loudly without permission was observed as the learners were interacting with one another in reading the braille words.

Table 3: Practice architectures of developing reading skills - Phonics

‘Sayings’	Cultural discursive arrangements
The concepts that were used during the reading lesson included: summer, season, hot, rainy,	The school medium of instruction is Oshikwanyama. The teacher and the learners’

<p>see, seeds, bee, food, cook, and look. These are some of the words used during the lesson. Learners were encouraged to give words with long vowels ‘ee’ and ‘oo’.</p>	<p>home language is Oshikwanyama. The lesson was delivered in English. The words listed for long vowels ‘ee’ and ‘oo’ were well explained by the teacher. However, she explained some of the concepts in Oshikwanyama so that the learners would understand.</p>
<p>‘Doings’</p>	<p>Material economic arrangements</p>
<p>The teacher introduced the lesson by asking learners to sound the long vowels given to them on the flashcards. Then, the teacher explained the concept in a story for the learners to understand.</p> <p>Then the teacher was observed reading a story about summer and later asked some learners to read aloud individually. Later the teacher asked learners to search for words that had long vowels from the story and to say them.</p> <p>Blind learners were informed to listen carefully to be able to hear the words containing the phonics ‘ee’ and ‘oo’ sounds correctly from the story.</p> <p>Learners listed words orally of the given phonics, read the words together repeatedly and a worksheet was issued to search for words containing the phonics ‘oo’ and ‘ee’ from the given text.</p>	<p>The lesson was presented in Grade 3 and there were 10 learners in the class. The teacher indicated that “<i>The teacher/learner ratio in a special class is 1:8 now that I have 10 learners in my class I found it difficult to give learning support during reading lesson (SVRI - T3).</i>”</p> <p>During the lesson, the teacher was observed using the following teaching materials: A textbook in print, flashcards, and magnifying glasses. The teacher informed the learners with a low vision to read aloud to others in the class, those who did not have textbooks.</p> <p>Learners sat in rows with single desks. Low vision learners sat close to the chalkboard while blind learners sat at the back of the class. There is a reading corner in the class but all the reading materials are in print. The teacher indicated that she would have preferred learners to sit in pairs or groups but due to Covid-19 regulations, it was not permitted.</p> <p>The reading methods used in this lesson were reading aloud and choral reading. Blind</p>

<p>The teacher reminded learners to point to words as they read them to ensure the correct pronunciation of words.</p> <p>During the practical activity, the teacher displayed different words on the chalkboard and asked learners to read them as they picked up words of the given phonics ‘ee’ and ‘oo’.</p> <p>Several photos were taken during the lessons, the picture of learners reading a story and another picture of the teacher assisting blind learners in reading the phonic words (see figure 13).</p>	<p>learners could not read the text since it was not translated into braille.</p> <p>The lesson was conducted in 80 minutes. The classroom in which the lesson was held was well ventilated.</p>
<p>‘Relatings’</p>	<p>Social political arrangements</p>
<p>Teachers and learners were both actively involved in the lesson. Questions posed during the lesson were answered. There was some disruptive behaviour observed during the lesson.</p>	<p>Class rules were respected during the lesson. The curriculum policy was used to deliver reading lessons. The teacher and learners clapped hands whenever a learner read well.</p>



Figure 13: Visually impaired learners reading a story (Photo taken by teacher,2021)



Figure 14: Teacher providing support to a blind learner (photo taken by teacher,2021)

5.7.4 Discussion of OBN lesson on developing the reading skill - Reading Comprehension

The lesson was conducted in English focusing on reading comprehension. The objective of the lesson was for the learners to show understanding of texts by correctly answering simple and higher-order questions. The learners were expected to listen to a story and respond to questions. The reading comprehension strategy used during this lesson was to test learners' ability to process text and understand its meaning through word decoding and linguistic comprehension (Catts, 2018). The observed class seating arrangement was that all learners sat alone facing the chalkboard. In terms of the 'sayings', the teacher and learners discussed the vocabulary words from the story. The teacher explained difficult concepts in the learners' home language to help them understand the meaning of the words in the story. This meant that code-switching came into play. In terms of material economic arrangements, the class had a reading corner where learners could practice reading to improve their reading skills. Different reading materials were used during the lesson to cater for the different visual abilities of the learners. Low vision learners were provided with an enlarged print of the relevant story. The observed font size was 16 while blind learners relied on the story being played on a tape recorder. With regards to doings, the learners fully participated in the lesson by responding to questions and they also retold the story. During

the lesson, the teacher and low vision learners assisted the blind learners with spelling the vocabulary words. This indicated that there were good relations between the teacher and learners.

Table 4: Practice architectures of developing a reading skill – Reading Comprehension

‘Sayings’	Cultural discursive
<p>Vocabulary words from the story used during the lesson were discussed: sheep, keep, farmer, grass, wool, tool, iron</p>	<p>The participant teacher and the majority of learners speak Oshikwanyama thus confusion about letter sounds were observed in reading. The participant teacher indicated that it is easy to teach learners who speak the same language as yours because it would be easy to explain difficult concepts in their language in cases where learners do not understand.</p>
‘Doings’	Material-Economic arrangements
<p>The teacher introduced the lesson by letting learners listen to a radio tape with a recorded CD playing the ‘sh’ sound and asked them which sound they could hear. Then she explained the following vocabulary words such as sheep, short, shine, and sharp with pictures displayed on the chalkboard. They then discussed the meaning of the words before they listened to the whole story.</p> <p>Then teacher played the story three times on a CD while the learners listened. The teacher asked questions about the story, after which, the learners were asked to retell the story using their own words. Blind learners were actively participating compared to low vision learners in answering the questions and retelling the story.</p>	<p>It was observed that learners with low vision sat closer to where the light was brighter while blind learners sat in rows at the back of the classroom. The classroom windows and the door were wide open to allow more light in. Two light bulbs were not working. The classroom was well ventilated.</p> <p>The classroom has a reading corner with few reading materials in print only. The class in which the lesson was presented was Grade 2. There were nine learners and the lesson duration was 80 minutes. The resources the teacher used in this lesson included: a tape recorder, flashcards, and worksheets.</p> <p>The reading methods used included: the question and answer method and phonics.</p>

At the end of the lesson, the learners were given worksheets to write words of the ‘sh’ sound and were reminded to recall the braille cells when writing.	A learner-centred approach was used in facilitating the lesson.
‘Relatings’	Social-political arrangements
Learners clapped their hands three times for each other and this is an indication that they have a good relationship between them and the teacher. However, responding to questions about the story was seen as a difficult activity because the teacher explained each question several times in the home language for them to understand what was asked.	At the beginning of the lesson, the learners were told not to shout out answers when answering questions. The teacher kept reminding learners to handle the braille machine with care while writing the ‘sh’ words.

5.7.5 Discussion of OBN lesson on developing a reading skill - fluency

The lesson focused on fluency. Fluency is defined as the ability to read with speed, accuracy, and proper expression to understand what the learners have read (McLaughlin & Kamei-Hannan, 2018). The main lesson objective was for learners to demonstrate good reading habits through eagerness to read. Learners were expected to read a given text considering the following: accuracy, speed, use of punctuation, pronunciation of words and proper expression. The class observed was Grade 2. Blind learners were provided with the same text in braille and were reminded to consider contractions when reading. The participant teacher spoke the same language as the learners, therefore, she code-switched to explain difficult terms. Concepts related to the topic were from the text and discussed during the lesson. In terms of material economic arrangements, the classroom was well furnished with chairs and desks for learners and different interest sight words and phonics corners for reading were observed. The only obvious problem noted was the reading books at the reading corner were not translated into braille to accommodate all visually impaired learners. In ‘doings’ the learners sang a rhyming song in the form of a play - dancing. While in ‘relatings’, learners were observed enjoying the song as they sang, holding hands which might be an indication that they have connected well during the lesson.

Table 5: Practice architectures of developing a reading skill - Fluency

‘Sayings’	Cultural discursive arrangements
<p>Words used during the lesson included: culture, customs, married, language, occasions, traditional, celebrations, leaders, festivals, dance, symbols and spirits. The lesson began with a rhyming song and a discussion on rhyming words.</p> <p>The teacher then gave the learners copied sheets of the text in enlarged print as well as in braille. The teacher asked learners to read the vocabulary words found in the text and discuss them.</p>	<p>Learners were informed about the reading rules on fluency. The teacher asked learners to sit straight and pay attention as others read. The learners’ errors were immediately corrected to avoid repeating the same reading error. The medium of instruction is Oshikwanyama but the lesson was delivered in both English and Oshikwanyama. The teacher code-switched when she explained the reading rules. Although the medium of instruction is Oshikwanyama, teachers teaching English should not deliver a lesson in their mother tongue, but in English. <i>“Teaching learners mixing language 1 and language 2 confuse learners and some will rely on mother tongue explanation before they do any activity in English because they are used to”</i>. (SVRI - T2)</p>
‘Doings’	Material Economic arrangements
<p>Learners were asked to individually read aloud the text considering fluency, speed, accuracy and proper expression.</p> <p>The teacher made an example of how to read fluently by reading the text to them and later guided them with their hands to follow as they read. Corrections were made to learners’ pronunciation of words, use of punctuation and speed.</p>	<p>All learners were given copies of a reading text in either enlarged print or braille letters. The number of learners in the class was nine and the seating arrangement was in rows (low vision in front and blind at the back of the class).</p> <p>The materials used during the lesson were: magnifying glasses, vocabulary words, a rhyming song, papers that contained the reading text and a stopwatch.</p>

<p>The teacher asked the learners to read a given text and while they were reading the teacher calculated the learner's reading speed per minute.</p>	<p>The approach to teaching reading was learner-centred because learners were observed reading in pairs, groups and as a whole class. This teaching method was observed to support reading fluency.</p> <p>There is a reading corner in the classroom with books to encourage reading but not many books. These books are not translated into braille. The reading corner was rich with sight words and phonic words written on flashcards.</p>
<p>'Relatings'</p>	<p>Social-Political arrangements</p>
<p>Learners waited for the teacher to instruct them to read. During the 'reading aloud' part of the lesson, for fluency purposes, learners could sense their reading errors in pronunciation of the words, breathing, use of punctuation etc. The learners assisted each other in reading as fluently as possible.</p>	<p>Learners were observed raising their hands before they were given a chance to read. The Junior Primary curriculum guided the lesson presentation. The class rules also directed both teacher and learners to develop fluency in reading effectively. There was tolerance among the teacher and learners during reading. The teacher controlled the lesson.</p>

5.7.6 Discussion of OBN lesson on developing the reading skill - Vocabulary

The lesson focused on developing vocabulary words. The lesson objective was to use new words in context. The intention was to enrich learners' vocabulary and support word recognition and meanings of the word. The lesson was delivered in English. To promote the understanding and meaning of key concepts new words were explained in both languages: Oshikwanyama and English. The concepts of the topic were: buildings, clay, iron, wood, mud, sticks and stones. In terms of material economics - the class lacked reading materials in braille. The teacher indicated that it is her responsibility to design/create her own reading materials, for example, translating braille sight words into braille, short text and phonics. Magnifying glasses were provided to learners with low vision to aid them in reading. The challenge observed was the amount of time

allocated to English lessons; the teacher was not able to complete the lesson because more time was needed to give learners individual support.

Table 6: Practice architecture of developing reading skills - Vocabulary

‘Sayings’	Cultural Discursive Arrangements
<p>The vocabulary terms used during the lesson were: clay mud, stones, sticks, build, wood, and iron.</p> <p>The lesson began with the teacher asking learners to mention different materials used to build a house to assess learners’ prior knowledge. The discussion continued with how houses were built traditionally and how they are built in modern times.</p> <p>The new concepts introduced during the lesson such as mud, clay, wood, sticks, and iron was explained.</p>	<p>The medium of instruction is Oshikwanyama, however, the lesson was delivered in English. Learners were seen raising their hands before reading. The teacher code-switched to Language 1 to explain the meaning of words by giving examples.</p> <p>Learners who could not understand the meanings of the words in English were encouraged to inform the teacher so that she could code-switch to Oshikwanyama for a better explanation.</p>
‘Doings’	Material Economic Arrangements
<p>The teacher gave learners sight words to read in pairs and later as a class. The sight words were written in enlarged print on paper and in braille.</p> <p>The teacher distributed an activity where learners were expected to read the text provided and underline the vocabulary words learned.</p> <p>The teacher then displayed the vocabulary words on the chalkboard and she read the words and later asked learners to read them aloud repeating each word twice.</p>	<p>The class was arranged in groups of three learners as per their ability to see (visual acuity). The low vision learners were placed together in their groups and blind learners in their groups.</p> <p>The total number of learners in the class was 9. The class looked well furnished with chairs, desks, curtains, and light bulbs. It was well ventilated.</p> <p>Materials used during the lesson: Pictures of different houses, sight words and vocabulary words and a text.</p>

<p>Learners who found it difficult to recognize the words were individually supported by the teacher.</p>	<p>Learners with low vision were observed using magnifying glasses to read the vocabulary and sight words on the classroom wall.</p> <p>The vocabulary words learned were pasted in the reading corner and learners were told to read them anytime they are free.</p> <p>The reading methods used were reading aloud, paired reading and phonics in a learner-centred approach.</p>
<p>‘Relatings’</p>	<p>Social-Political Arrangements</p>
<p>The teacher began the lesson by greeting the learners and reminding them about the reading rules in class. Learners were told to pay attention as the teacher read the vocabulary words to them.</p> <p>Learners were praised with the clapping of hands although disruptive behaviour of moving chairs unnecessarily was observed. The teacher dealt with this matter by reminding the learners of the class rules.</p>	<p>The teacher was guided by the curriculum of the Junior Primary Phase in her planning and presentation. The code of conduct for both teachers and learners was respected which allowed the teaching and learning of reading to smoothly take place. There was cooperation among the teachers and learners and the teacher was the one leading the class.</p>
<p>‘Relatings’</p>	<p>Social-Political Arrangements</p>
<p>Teachers and learners were both actively involved in the lesson. Questions posed during the lesson were answered. There was some disruptive behaviour observed during the lesson.</p>	<p>Class rules were respected during the lesson. The curriculum policy was used to deliver reading lessons. The teacher and learners clapped hands whenever a learner read well.</p>

5.7 Summary: Discussing enabling and constraining factors through ToPA

This section is the summary of the five reading lessons seen through the theory of practice architecture lens. The characteristic ‘sayings’, ‘doings’, and ‘relatings’ in these reading lessons are summarised below with the development of these lessons through the theory of practice

architectures. The main reason for this study was to explore how Junior Primary teachers develop reading skills with visually impaired learners in language, meaning it was not only to find out the promoting and or constraining factors to develop reading skills but intending to improve the practice of developing reading skills. My attention turns to the characteristics of ‘sayings’, ‘doings’ and ‘relatings’ and how these lessons influence the cultural discursive, material economic and social-political arrangements.

5.8. Key features of the ‘sayings’

Tables 2 to 6 above show how the reading skill components were used to develop reading for visually impaired learners in English as a language. Participant teachers demonstrated the role they played in developing these reading skills. Several reading lessons were presented and observed, Phonemic awareness (refer to Table 2), phonics (refer to Table 3), reading comprehension (refer to Table 4), fluency (refer to Table 5) and vocabulary (refer to Table 6) were all taught by the three participating teachers to visually impaired learners at Junior Primary Phase (Grade 1 - 3).

5.9 Cultural discursive arrangements that influenced the lessons

Although the Grades in which the participating teachers teach use Oshikwanyama as a medium of instruction all lessons were delivered in English. Teachers and learners speak Oshikwanyama as a home language (refer to Tables 3,4,5).

The fact that both the learners and the participant teachers were not English first language speakers created a challenge in the language specified regarding terms to be used in developing the necessary reading skills. This translates to say that learning the new concepts in the English language, to which the learners are not accustomed, was a constraint for them. The fact that the participating teachers were able to speak the same language as the learners meant that they could code-switch to assist the learners to understand the new vocabulary better. All the participating teachers believed in code-switching as a way of assisting the learners to understand the difficult concepts. However, the Grade 2 teacher emphasized that ‘code-switching’ between language 1 and 2 during reading lessons is detrimental to the development of reading skills. She indicated that *“Teaching learners mixing language 1 and language 2 confuse learners and some will rely on mother tongue explanation before they do any activity in English because they are used to”* (refer

to Table 5). Meaning that code-switching might develop a tendency in the learners to rely on the teacher's explanations in their home language before answering questions.

The Junior Primary curriculum (2015), advocates that teachers are required to teach learners language skills in English. The curriculum requires that English Second language be taught as a subject from Grade 1 to 3. It is therefore essential for all learners who are not home language speakers of English, to learn the language to enable them to cope with the demands of further education in the ensuing years of schooling (JPP curriculum).

5.10 Key features of 'doings'

The teachers developed a range of activities for the learners to develop their reading skills. Activities done during lessons were based on the reading skill component. These activities were: sound the beginning letter of the given words (refer to Table 3), this activity was for phonemic awareness. For the phonics activity, learners were asked to list words of the phonic 'ee' and 'oo' and later search for those words from a given text. Practical activities were also done in the form of a game where learners had to pick up words of the phonic 'ee' and 'oo' displayed on the chalkboard in a limited time set by the teacher (refer to Table 4).

For the reading comprehension activity (refer to table 5), the teacher asked learners questions from the story that the learners had to listen to. The learners were also asked to retell the story in their own words. With the fluency activity (refer to Table 5), learners were asked to read the provided text aloud making use of the following: accuracy, speed, fluency and proper expression. These considerations were set by the participant teachers and used during the assessment to measure the learners reading progress. During the vocabulary development lesson (refer to Table 5.5), learners were provided with a text and asked to read and underline the vocabulary written on the chalkboard. With the completely blind learners, I observed the teacher reading the vocabulary words and asking the learners to read the text. All reading activities were done with the support of the teacher in facilitating and guiding the learners to answer the questions.

Learners were observed being involved in the lessons. They worked in pairs, and groups sharing ideas and helping each other during reading aloud in correcting their pronunciation of words. They interacted with the teacher and asked and answered questions.

5.11. The ‘doings’ were shaped and influenced by material-economic arrangements

Table 7 below, summarizes what the participating teachers indicated about the conditions concerning reading resources, infrastructure and average class size in their classes.

Table 7: Material economics observed in JPP classes

Participant ID	CONDITIONS										Class size
	Reading books	Braille books	Magnifying glasses	Braille machines	Talking books	Radio	Reading corner	Textbooks	Furniture(chairs, desks, curtains,	Class lights	
T1	✓	X	---	---	X	✓	✓	---	✓	✓	6
T2	✓	X	✓	---	X	X	✓	---	✓	---	9
T3	✓	X	✓	✓	X	X	✓	✓	✓	✓	10

✓ = available X= unavailable: --- = no comment

The conditions presented in table 7, indicate that although all the teachers had reading corners in their classrooms, there were very few books (refer to Table 4 and 5). The low vision learners had to read aloud to the other learners due to the lack of textbooks (refer to Table 3 and 5). Textbooks play an important role in the process of developing reading skills. They are the tools of reference that learners use to gain knowledge and understanding. Textbooks also have activities that the teachers refer learners to. The shortage of textbooks and the fact that they are not translated into braille creates challenges for both teachers and learners.

To overcome this challenge of learners reading books not translated into braille, some participant teachers indicated that “*We provide learners with reading materials such as story books in print/braille*” (SVRI - T2 & T3). However, the information (refer to Table 2, 3 and 5) reveals that there are no reading books printed in braille used during any reading lesson except the reader books in print and radio used in one class (refer to Table 2).

Commenting on the class environment, all classrooms have desks and chairs for learners (refer to Tables 2, 3, 4, 5 and 6). There are curtains on the windows. Learners sat individually in rows facing

the chalkboard. Low vision learners sat close to the chalkboard while blind learners sat at the back of the class (refer to table 2). I observed that all classrooms are in good condition and well ventilated. Only one classroom was observed with two light bulbs not working (refer to Table 3). With regards to classroom furniture, this was not deemed a challenge because all classes observed had chairs and desks for all learners.

Class sizes for a special school are not in the same range as in mainstream schools. At special schools, the teacher-learner ratio ranges from 1 teacher for 8 to 10 learners. Large numbers of visually impaired learners in class might affect the development of reading negatively since the teacher is teaching both low vision and blind learners at the same time. Thus, the teacher needs to split her time between these learners so that they receive sufficient individual attention. One of the teachers indicated that “*I find it difficult to give learning support during reading lesson*” (T3) (refer to Table 2). Two of the participant teachers had less than 10 learners in their classroom, while the biggest class had 10 learners. Although this number falls within the prescribed ratio, it is a challenge for the teacher to reach and meet each learner’s reading needs, for example rewriting print materials in braille to ensure that each learner receives a copy of the braille reading material.

5.12 Key features of ‘relatings’

In all the classes, there seemed to be a good relationship between the teachers and the learners. It was only in one class when disruptive behaviour of moving chairs and hitting on the table producing unnecessary sounds during the lesson was observed. The teacher dealt with this by reminding the learners about the class rules.

In the photos provided below, teachers and learners were seen talking and assisting each other. These actions revealed a good relationship among learners themselves and between learners and teachers. However, the shortage of textbooks, and reading books in braille and braille machines in the classrooms might cause tension among learners and teachers which negatively impacts the development of reading skills for visually impaired learners.



Figure 15: Learners assisting each other in reading (Photo taken by the teacher, 2021)



Figure 16: Teacher assisting learners during reading activity (Photo taken by the teacher, 2021)

5.13. Social-Political arrangements

Teachers followed the Junior Primary Phase Curriculum to guide them in developing reading lessons. The teaching and learning of English as a Second language aims to give learners skills to consolidate and extend Basic English for further progression in education (JPPC, 2015). This translates to suggest that teachers should put more emphasis on reading skills that might assist learners to become better readers to progress well in other grades.

The process of developing reading skills was also managed and controlled by class rules and reading rules on the procedures and processes within the classrooms (refer to tables 2, 3, 4, 5 and 6).

The teacher code of conduct as explained in the Education Act 16 of 2001, controls the behaviour of the teacher in the school, classroom and their interaction with the learners. Each class has rules and regulations to manage the development of the reading instruction process. It is recommended that each class teacher should have his or her class rules to manage what happens in the class (National policy for JPP 2015). Emphasis was placed on how learners should conduct themselves when using the reading corner in class to care for their books.

5.14 Conclusion

In this section, I discussed and analysed the reading lessons. The Theory of Practice Architectures was used to analyse the reading lessons the participant teachers presented. The characteristics of ‘sayings’, ‘doings’ and ‘relatings’ in the development of reading skills were looked at with the conditions which enabled and or constrained their teaching of reading skills as a practice.

It was evident that developing reading skills as a practice is characterised by a type of language that consists of reading skills terms such as phonemic awareness, phonics, reading comprehension, fluency and vocabulary. Developing reading skills is also characterised by certain teaching and reading methods such as learner-centred education, reading aloud, phonics, paired, shared and silent reading methods. The development of reading skills is enhanced by the relationship between teachers and learners and among learners themselves. It can also improve learners’ attitudes towards reading.

Next, I present Chapter six (the concluding chapter) in which I summarise the findings of the study as generated in chapter five. Recommendations for practice and the possibilities for further research will also be highlighted.

6. CHAPTER SIX

6.1 Introduction to the chapter

As mentioned earlier in chapter one, this study sought to understand and explore how Junior Primary teachers in a special school develop visually impaired learners' reading skills. The study aimed at identifying the factors that hinder or promote the development of reading skills amongst these learners. In attaining these research goals, the following questions guided me throughout this study:

- How do Junior Primary teachers develop visually impaired learners reading skills?
- What are the enabling/constraining factors in teaching visually impaired learners reading skills?

In this concluding chapter and as a destination of my thesis, I begin by providing a brief explanation of the research findings of this study as generated in chapter five. To direct the reader, the summary of the findings is organized to answer the research questions that guided this study. The potential value of this study and some recommendations for good practice in developing reading skills with visually impaired learners are provided. The suggestions provided will not only benefit Junior Primary teachers in developing reading instruction practices for visually impaired learners but also for special and resource schools across Namibia.

6.2 Summary of key research findings

In this section, I present the summary of the key findings of the study organised under the following themes: Classroom seating arrangements, Reading materials used, Reading skills developed, and factors enabling and or constraining the development of reading skills with visually impaired learners.

6.2.1 Classroom seating arrangements

The findings indicated that classroom arrangement varies from one teacher to another. Grade 1 visually impaired learners were observed seated in single rows, sometimes in pairs facing the chalkboard. Grade 2 visually impaired learners were seated in groups. Sometimes the learners sat individually far from the chalkboard, while the Grade 3 visually impaired learners all sat individually facing the chalkboard. The low vision learners sat close to the chalkboard while blind

learners sat at the back of the classroom. Participant teachers consider the learners' vision before seating them anywhere in the classroom. It is evident in the literature that the learners' position in a classroom relative to their visual ability should allow for an unobstructed view (Cox & Dykes, 2001). However, the seating arrangements should allow learners to move to a position with a better vantage point when visual materials are used. As such, the findings reveal that low vision learners sat in front of the class close to the chalkboard and blind learners sat at the back of the class.

Another essential point revealed about classroom seating arrangements is that all three classes observed were arranged with a reading corner in it. The reading corners were observed with few reading books and these were in print only. There was no evidence of books printed in braille. Participant teachers viewed reading corners as an additional place within their classroom that will introduce learners to a variety of books to develop reading skills. The findings indicated that teachers regard reading corners as a space for maintaining discipline and that it is a good practice to motivate a reading culture. The findings revealed that the classroom arrangement helped the participant teachers to manage and keep order in the class during reading lessons.

The implementation of reading rules such as raising your hand before reading and pointing to the words when reading has contributed to the development of reading skills. It was evident that participant teachers used these discipline techniques not only to manage reading lessons but to support visually impaired learners in practising the reading procedures of braille or print.

6.2.2 Reading Materials

The findings indicate that participant teachers use a variety of reading materials to develop reading skills with visually impaired learners. The reading materials used during reading lessons were flashcards, drawn or printed pictures, posters, slates, tactile books, egg boxes and magnifying glasses. All these resources were observed being used in teaching reading skills. Some of the reading materials, e.g. written text stories, and words on flashcards were written in enlarged font size and printed with visible pictures to support the learners' understanding. Findings revealed that some of these materials were not printed in braille. This was a noted constraint for the blind learners. They could not benefit from these reading resources. The findings revealed that the teachers made appropriate concrete materials for blind learners so that they can develop their

reading skills. Kao and Mzimela (2018), emphasized that concrete items enable visually impaired learners to visualise the braille dots through touch.

6.3. How are reading skills developed

In summary, my research findings revealed that teachers in the case study school developed reading skills by using almost the same phonemic awareness activities throughout the three grades. It was strongly evident that the teachers used songs, games and rhyming words to clap out the sounds in the word. The findings further exposed that participants suggested that visually impaired learners should be taught phonemic awareness at an early stage for them to acquire all the necessary skills to master the English phonemes.

6.3.1. Phonics

My study showed that participant teachers developed phonic skill activities such as games and stories of a given letter sound. It was further revealed that during these activities, particular attention was given to the beginning and/or ending sounds of a word.

6.3.2. Reading Comprehension

Generally, my findings indicated that participant teachers developed reading comprehension skills through the reading of stories or texts and asked questions (orally/written) to measure learners' comprehension of the story or text read. The study further indicated that for reading skills to be developed through comprehension, reading texts or stories should not be too long or too short. This means that learners should be able to read various texts of 4 to 5 sentences in Grade 1 and 2, while Grade 3 should read prepared and unprepared texts of 50 words from fictional and factual texts (English Second language Syllabus, 2015). The research findings also showed that junior primary teachers developed reading comprehension using a different questioning method to capture the learners' understanding of the text. In other words, the teachers required the learners to read a story and re-tell the same story or answer questions relating to the story and re-arrange the sentences based on the story as a means to develop reading skills through comprehension.

6.3.3. Vocabulary

This study revealed that the teachers developed reading skills by exposing the learners to sight words, searching for the meaning of difficult words from the texts, stories and spelling new words. Research in this study showed that participant teachers used different activities to involve visually impaired learners. Examples of the different reading activities were: reading 5 words every day and searching for new words and constructing sentences with those words to indicate their meaning. Practising their reading helped the learners to acquire vocabulary. Learners can acquire vocabulary words on an average of 2 to 8 words per day if they are given sufficient reading opportunities.

6.3.4. Fluency

The research findings revealed that teachers develop reading skills by allowing learners to read texts or stories aloud repeatedly by practising the use of punctuations and expressions to strengthen their fluency. It was further noted that the participant teachers emphasised the reading rules to promote fluency. Learners were encouraged to read words as they appear, using correct punctuation accordingly and avoiding guessing the words. The study found that the teachers developed reading skills by using poems, short sentences and reading vocabulary words repeatedly. It was evident that the teachers provided reading materials such as story books in print and braille to learners for them to read aloud in pairs or groups and they encouraged the learners to make use of the reading corners.

6.4 Factors that promoted reading skills

In response to my second research question, the findings indicated that there were conditions that promoted or hampered the development of reading skills in visually impaired learners. From the findings, there were supportive conditions such as praising learners whenever reading correctly, the provision of assistant reading tools such as magnifying glasses, enlarged prints and teachers moving around the class to attend to individual learners. This translates to say that visually impaired learners received various means of support during reading lessons.

The findings also indicated that teachers made use of other learners who are good readers to assist with phonics and fluency, especially in the pronunciation of words and spelling. The data further revealed that teachers corrected the learners' reading errors as soon as they were detected by re-reading the word/text repeatedly. These findings resonate with Chen et al (2021), who also outlined

that correcting learners immediately when reading errors occur gives a positive impact on developing reading instruction.

The study further indicated that the reading methods the teachers used promoted the development of reading skills among the visually impaired learners in the Junior Primary phase. The variety of reading methods used included the use of braille letters, and verbal reinforcement such as informing learners orally which dots braille letters appeared in when reading. It was revealed that all these methods were used with blind learners. According to the findings, reading methods that supported low vision learners were choral reading, paired reading, silent reading and the phonic method. These reading methods were observed being used by all teachers during reading lessons. In concurrence with Blankenship (2008), teachers must have both pedagogy and the teaching skills to adjust to a variety of learning styles and abilities to engage visually impaired learners in learning reading instructions. This point was observed in the variety of activities these teachers used to promote reading skills.

6. 5 Factors constraining the development of reading skills with VI Learners

The study found that there were constraining factors inhibiting the development of reading skills in visually impaired learners. Some of these findings included insufficient braille reading resources in the Junior Primary Phase classrooms. As a result, reading activities were carried out with or without braille materials. The shortage of braille reading resources is a constraint in encouraging reading with blind learners.

The findings indicated that the recognition of braille letter configuration/dots between contracted and uncontracted words confused the learners. This resulted in constraining the reading process for blind learners.

Findings indicated that there was poor phonological awareness among the learners. It emerged that the confusion of letter sounds (phonics) with language 1 and language 2 hampered the development of reading skills.

One of the constraining factors that all teachers commented on was a shortage of time. The findings revealed the issue of inadequate time allocation for English lessons in the timetable. The data indicated that participant teachers find it difficult to teach reading in two different texts (print or

braille), as a result, teachers always end up not developing the reading skills as intended by the curriculum. Thus, Koenig and Holbrook (2000), argue that reading competencies require educational time to be allocated to cover all the reading skills of visually impaired learners

6.6. The significance of my study

Since studies regarding the development of reading skills with visually impaired learners are limited, this study fills a gap in the literature and contributes to the body of knowledge on special education. This case study aimed to understand and explore how Junior Primary teachers perceive the practices of reading skills with visually impaired learners in their school. The study aimed to identify factors that enable and or constrain the development of reading skills with visually impaired learners at an urban Special school in Namibia. The study also offered fit for purpose teaching practices to develop reading skills in visually impaired learners.

The findings of this study will help me, my colleagues and policymakers in education better understand the significant role of developing reading skills with visually impaired learners, especially curriculum designers in identifying best practices and developing relevant training programmes about reading skills with visually impaired learners. Additionally, this study advocate for the development of reading skills with visually impaired learners amongst all stakeholders within the special education domain. As such, the study may be used as a reference point to help teachers enhance the practices of reading skills to improve the teaching and learning process in special schools, especially for learners who experience visual impairment. As a teacher, the study improved my perceptions regarding reading skills with visually impaired learners.

The inclusion of developing reading skills practices with learners in two categories (low vision and blind) at the same time was very important for this study. It revealed that visually impaired learners could read as well as sighted learners. The study further recognizes the significance of teachers' practice in developing reading skills and its contribution to learners' knowledge.

6.7. The significance of using ToPA in this study

As indicated earlier in this study, ToPA was used as an analytical tool for this study. Therefore, the significant values that ToPA brought to this study are explained hereunder. In this study, ToPA is oriented to understanding teachers' practice in developing reading skills in the semantic space,

physical space-time and social-political space (Kemmis, et al., 2014). I used this lens to analyse and understand the teachers' practices in developing reading skills, in terms of the language used, materials or resources available and the relationship between the teacher and learners. These conditions, the 'sayings', 'doings' and 'relatings' influenced the arrangements within ToPA, and helped me to consider teachers' experiences of reading practices for visually impaired learners. I found this theory relevant in the sense that it helped me to understand the enabling factors and underlying conditions that constrained the teachers' practice in developing reading skills with these learners within their daily practice. This then informed the study through the theory that research practitioners in the field of special education need to join hands and bring about transformation.

6.8. Recommendation for good practice

The following recommendations need to be considered to ensure that the practice of developing reading skills with visually impaired learners is understood and encapsulated into the mindset of all educational stakeholders, including parents.

- Teachers teaching visually impaired learners should collaborate and draw up a program for braille learning support. This program should serve as a guide to developing reading skills in braille literacy. A file should be created to record the learner's progress in this program.
- Advisory teachers responsible for visual impairment units should provide training in the use of braille reading resources on a more sustained basis.
- The government of Namibia through the Ministry of Education should ensure that sufficient basic reading materials for learning braille and developing reading skills are available in all Special Schools to ensure that all learners access the same braille materials and equipment.
- The Regional Directorate of Education, Arts and Culture should appoint assistant teachers to help in developing reading skills for visually impaired learners.
- The government should streamline the ways of funding the education of visually impaired learners to remove the constraints, such as the lack of braille- and human resources.

- The Ministry of Education, Arts and Culture should come up with a clear policy framework for developing the English language for visually impaired learners instead of relying on the policies laid down in the various education divisions.
- The University of Namibia and other institutions of higher learning involved in training teachers should include a component of developing reading skills with visually impaired learners in their language curriculum.
- The Ministry of Education in conjunction with NGOs should organize more seminars, and short courses, to update teachers on the latest effective reading strategies in developing the teaching of braille.

6.9. Recommendation for further research

Reading skills with visually impaired learners is an under-researched area in Namibian schools. As a result, the academic research on the practice of developing reading skills with these learners is still at an infant stage in the country and more studies are needed to grow the body of knowledge in this domain of special education. My research topic focused on exploring teachers' practice in developing reading skills in the Junior Primary Phase with visually impaired learners. This involved obtaining an understanding of how reading skills can be developed. I feel that there are more aspects that the study of developing reading skills with visually impaired learners can look at. I recommend that future researchers should tap into the findings described below.

A future researcher might explore the classroom seating arrangements for the practice of developing reading skills with visually impaired learners. Secondly, reading strategies and teachers' perceptions towards the development of reading components need to be investigated, specifically regarding developing reading skills with visually impaired learners.

Thirdly, the study did not look in-depth at issues of teacher training and braille reading resources regarding the development of reading skills. For this reason, I urge future studies to place their focus on this domain of education.

This case study was conducted in an urban Special school in Oshana Region. A replication of this study in another Special school/Resource unit in the region or other regions can be conducted to gain a more holistic understating of the practice. A deeper understanding of teachers' practices in developing reading skills with visually impaired learners could be developed through large-scale

studies covering all special/resource units in Namibia. Finally, future researchers could use the theory of practice to analyse teachers' practice in developing reading skills, using practice architectures to shed light on the phenomenon under study. For example, languages, resources, parents who have a visually impaired child, learners or educational officers serving in the special needs domain could be some of the subjects for the study.

6.10. Limitation of this study

My focus for this research has been on how Junior Primary teachers develop reading skills with visually impaired learners. In response to my research focus, the study generated valuable findings on the development of reading skills with the potential value of changing the status quo found in Namibia. These findings, however, were generated from a small, unique qualitative case (A Special school in the Oshana Region) and therefore cannot be generalised. Only 3 out of 45 staff members in the case study school participated in the research. The reason for this is that this study pertained to the Junior Primary Phase only. Thus, the value of this small-scale qualitative study may be questioned as one cannot make generalisations from the results when the sample is statically not representative of the whole population in question (Falk & Guenther, 2006). As a researcher, I might not claim generalisability, but the findings may allow for realistic generalisation, implying that the findings of this research study can be used to recognise similarities and differences to cases that the reader might be familiar with.

Another notable limitation was that my research participants knew me (the researcher) as the principal of the case study school. Therefore, my positionality may in one way or another have influenced the responses of the participants. Having acknowledged my potential effect, I carefully followed the ethical procedures by seeking permission, negotiating access, and grounding my findings in the data collected. I kept reminding my participants about the issue of voluntary participation and the right to withdraw, as well as upholding the issue of confidentiality. All ethical protocols guided my conduct throughout the study.

6.11. Personal reflection

My research journey was not as exciting as I thought it would be. Generally, the journey throughout this study was challenging, yet every step was a learning experience. I had a challenge finding literature related to the development of reading skills with learners who experience visual

impairments. The lockdown due to Covid-19 turned the process of my thesis from normal to unusual. The closing down and opening of schools from March 2020 to December 2021 unexpectedly inhibited the process of collecting data on time and meeting up with my supervisor for productive feedback on my study.

Apart from the challenges experienced, I have learned various approaches to conducting research. At the commencement of the study, I had an opportunity to attend classes and a one-on-one session with my supervisor. These helped me to improve my academic literacy, for instance writing intellectually and logically. I learned that conducting a research study requires hard work, discipline, patience and most importantly sacrifice to accomplish the objectives and goals of the study. I learned to be ethical with everything that involved analysing and gathering data. I also learnt that each research study that one undertakes, should relate to previous research in the same field to grow the field. This adds to the validity of this study. Finally, the experience of networking with colleagues and participants was educative and enriching.

6.9 Conclusion

This study aimed to understand and explore how three Junior Primary teachers in a Special school develop visually impaired learners' reading skills and observe them in their classrooms. The study revealed that the three Junior Primary teachers teach reading skills using print and braille. Braille was integrated into teaching reading skills lessons and sometimes taught alone. The literature on developing visually impaired learners reading skills identified five reading components needed for teaching the visually impaired learners, such as phonemic awareness, phonics, fluency, reading comprehension and vocabulary. These essential five reading components were centrally integrated into their teaching by using different reading strategies during the reading lessons. Phonics, tactile and auditory activities for visually impaired learners and the proper development of reading skills as well as the enabling resources that support visually impaired literacy were found to be effective as the teachers developed the reading skills. The hindering factors uncovered in this study were general, located in cultural discursive, material-economic and social-political arrangements which continue to constrain the development of reading skills with visually impaired learners. In response to this, the study calls for more formative research studies on the notion of teachers' practice in developing reading skills with visually impaired learners and the use of ToPA due to its shaping powers.

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APPENDIX A: Letter for teachers

Consent letter to teacher

Invitation to take part in a research study

Elizabeth N Nuugonya
P.O.Box 971
Ondangwa
Namibia

Inquiries: Elizabeth Nuugonya

Cell: 0812994885

Email address: megumbotu@gmail.com

Dear teacher

I hereby invite you to participate in my research study on exploring how teachers develop visually impaired learners reading skills at our school. I am a part-time student at Rhodes University, Grahamstown, Eastern Cape in South Africa, researching towards a master's degree in Primary Education. My supervisors is Ms Bev Moore (b.moore@ru.ac.za). My provisional research title is "Teachers practice in developing visually impaired learners reading skills at Junior Primary phase". I have chosen our school as a research site as it accommodates learners experiencing these challenges. I plan to undertake the study from 08 June 2020- 31 July 2020.

I am inviting you to participate in my study as you are in a position to provide vital information based on your own experiences. If you are willing to participate you will be observed during one lesson and interviewed about your thoughts and practices regarding the development of reading skills with visually impaired learners. I would like to work with you as I conduct the research at our school.

It is important that you understand that this is not an evaluation of your performance but rather about me seeking your assistance to conduct my study. As such, I undertake to uphold your autonomy and keep all observations and interviews in the strictest confidence. You are free to withdraw from the research study at any time without negative consequences to yourself. In this regard, you will be asked to complete a consent form. It is against this background that I humbly invite you to participate in this research study at our school. Please feel free to contact me at 0812994885, amasistah@yahoo.com any time should you have any queries or questions you would like answered or my ethic coordinator Siyanda Mangele (E-mail:s.mangele@ru.ac.za).

Yours faithfully

Elizabeth Nuugonya (Masters Research Student)

APPENDIX A: Participant declaration

Declaration

I..... (full names of the participant)

Hereby confirm that I understand the content and nature of this research project. I understand that I reserve the right to withdraw from this research study project at any time.

.....

Signature of participant

.....

Date

APPENDIX B: Sample letters to parents / guardians

Consent letter to parents

Eluwa Special School

Private Bag x5513

Oshakati

Inquiries: Elizabeth Nuugonya

Cell: 0812994885

Email address: megumbotu@gmail.com

Dear parent

Request for permission to allow your child to be an indirect participant in the research study

My name is Elizabeth Nuugonya, a part- time Master of Education student in the field of primary education at Rhodes University, Grahamstown, South Africa. My study involves developing reading skills in visually impaired learners. I request permission to allow..... (child's name) at (school) to be part of my research study. Whilst the class teacher is the focus of the study your child will still be present in the classroom during the reading lessons. These lessons will be video recorded; therefore, it is possible that your child might appear on the video. However, these video recordings are for my own purposes only and will not be made available to others. This means that your child's identity will remain anonymous and confidential. The data generating process will start on the 08 June 2020 until 31 July 2020.

As the research study focuses on teachers practices on developing reading skills with visually impaired learners, your child will contribute meaningfully to this study.

Kindly take note that the information shared in this research study will not be an evaluation of your child's performance or competence. I undertake to uphold the child's autonomy and he/ she will be free to withdraw from the research study at any time without negative or undesirable consequences to him/herself. Against this background, I am requesting you to allow your child to participate in this research study during normal classes.

You are welcome to contact me at the above contact details should you have questions or require further clarification.

Kind regards

Elizabeth Nuugonya (Research Student)

Declaration

I..... (full names of parents/guardians) hereby declare that I understand the content of this document and the nature of the study. I give permission for (learner’s name and surname) to take part in the research study. I understand that I have a right to withdraw my child at any time during the study and this will have no negative consequences to his/her school performance.

.....

Signature of parent

.....

Date

**APPENDIX C: Letter to the Regional Director seeking permission to conduct research at
Eluwa Special School**

Inquiries: Elizabeth. N. Nuugonya

Cell: +264 812994885

E- mail: megumbotu@gmail.com

Elizabeth Nuugonya

P.O. Box 971

Ondangwa

To: The Regional Director

Oshana Education Directorate

Private Bag 5518

Oshakati, Namibia

Dear Mrs Amukana

**Subject: Request permission to conduct a research study at Eluwa Special School in
Ompundja Circuit**

I am Elizabeth Nangula Nuugonya, a part time Master of Education student in the field of primary education at Rhodes University (Grahamstown, South Africa). My supervisors is Ms Bev Moore. In fulfilment of this degree, I am required to carry out a research study in a primary school. The research study is scheduled to be conducted during June and July 2020 respectively. My research bears the title: **“Teachers practices in developing visually impaired learners reading skills at Junior Primary Phase”** The study aims to explore how teachers develop reading skills with visually impaired learners in Eluwa Special School. Moreover, the study seeks to discover the enabling and constraining factors in the development of reading skills with visually impaired learners.

It is with the aforesaid background I selected Eluwa Special School due to the accessibility to me as a researcher, its diversity and staff that possess vast experience in teaching visually impaired learners. However, my interest is not to assess the school’s performance academically but to understand how teachers develop reading skills. Thus, I need to collect data through observation and interviewing selected 3 teachers. Furthermore, I vow to adhere to the ethical standard of the Ministry of Education, of the school and as required by Rhodes University. My research will not interfere with the teaching and learning processes. However, due to the complexity of this study, I will need to observe some reading lessons during normal teaching hours to establish how teachers develop reading skills in visually impaired learners. With the above said, I humbly request your office to grant me written permission to conduct this important study in the said selected school.

Should there be questions, please feel free to contact me any time on the provided details for further questions or my supervisor Ms Moore at b.moore@ru.ac.za and the ethic co-ordinator Mr Siyanda Mangele at s.mangele@ru.za.ac.

Thanking you in anticipation that this letter will receive your favorable consideration.

Yours in Education

Elizabeth Nuugonya (Research student)

Cc: The inspector of Education
Ompundja Circuit

Appendix E: Sample of observation sheet

Observation Date: _____

Observer: _____

Name of the teacher: _____

Grade: _____

Subject: _____

Number of participants _____

Lesson Topic _____

Focus area	Notes
1. Classroom seating arrangements	
2. Reading Materials used	
3. How are the following developed? (a)Phonemic awareness (b) Phonics (c) Reading comprehension (d) Vocabulary (e) Fluency	
4. How learners are supported during reading lessons	
5. Challenges experienced during reading lesson	

Appendix F: Focus Group Interview

Example questions

1. How do you introduce braille reading to visually impaired learners?

2. What reading methods do you use that promote braille reading?

3. What are the challenges you have encountered teaching reading skills in braille?

4. How do you overcome these challenges?

5. Is there anything else you think is important for me to be aware of or to know?

APPENDIX G: Ethic Approval letter



Ms B Moore and Dr L Westaway
Faculty of Education
Rhodes University

15 May 2020

Dear Ms Moore,

Research Ethics Clearance for Ms Elizabeth Nuugonya (17N8147)

I hereby grant provisional research ethics approval for the M.Ed. study titled "Teachers' practice in developing visually impaired learners reading skills at Junior Primary Phase".

Reviewers: Dr Monica Hendricks and Dr Kirsten Wilmot

Approval is provisional, pending receipt of the permission letter from the following authorities: **Education Director of the relevant region in Namibia.**

Approval is granted for one year. A progress report will be requested in order to renew approval at the end of 2020, if required. Please notify the Education Faculty Ethics Committee Chair should any substantive change(s) that deviate from this application, be made during the research process. Please also provide a brief report to the Committee on the completion of the research. The purpose of this report is to indicate whether the research was conducted successfully, or if any problems arose that the Committee should be aware of. If the research results in the completion of a thesis lodged in the Rhodes University Library, please provide the Committee with the details of the submission as well.

The Provisional Ethics Clearance Number for this study is 2020-05/9.

I wish you every success with this research,



Prof Eureka Rosenberg (E.Rosenberg@ru.ac.za)
Education Faculty Ethics Chair

APPENDIX G: PERMISSION LETTER FROM THE DIRECTOR

